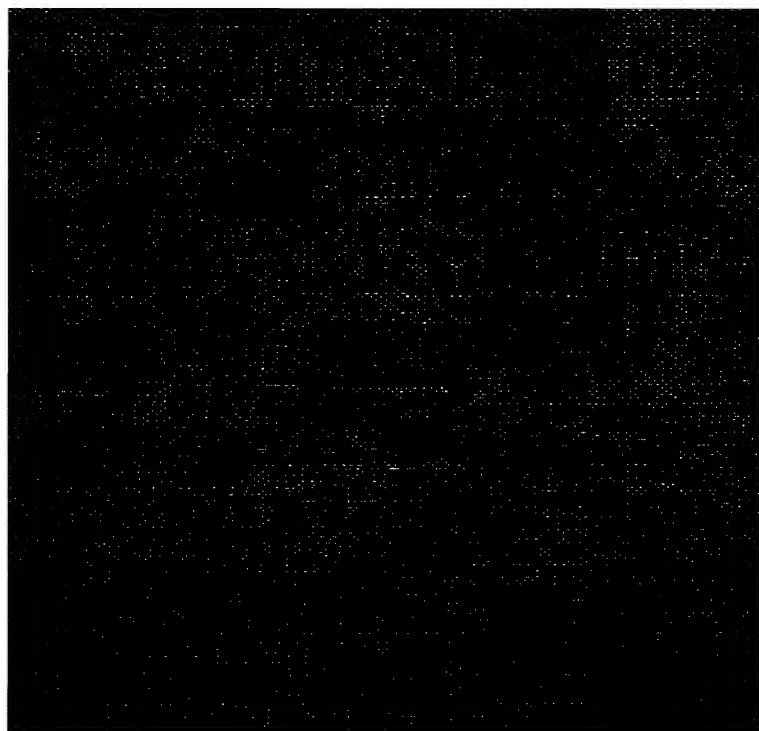


UNIVERSAL
LIBRARY




141 659

UNIVERSAL
LIBRARY



Teaching Posture and Body Mechanics

By
ELLEN DAVIS KELLY, Ph.D.
The Pennsylvania State College

A · S ·  BARNES and COMPANY
New York

Copyright, 1949, A. S. BARNES & COMPANY, INC.

All rights reserved. No part of this book may be reproduced in any form, either wholly or in part, for any use whatsoever, including radio presentation, without the written permission of the copyright owner with the exception of a reviewer who may quote brief passages in a review printed in a magazine or newspaper. Manufactured in the United States of America.

Published on the same day in the Dominion of Canada
by THE COPP CLARK CO., LIMITED, Toronto.

PREFACE

This book is intended for the teachers, parents and physicians who frequently join in criticism of children's postures. Good posture can and should be taught. This text describes standards of body mechanics and includes the activities through which they may be taught to children of all ages.

Health and physical education teachers will find many suggestions for stimulating children to want better posture, and the activities which are practical for use with whole classes of mixed abilities. This text continues where theoretical "correctives" courses usually stop, by presenting a preventive program adapted to typical school situations.

For elementary teachers and parents the non-technical presentation, and the space, age and sex indexing of games, stunts and exercises will facilitate selection of suitable activities for various situations. Two chapters are devoted to materials for use in the classroom.

Supervisors of health and physical education and school superintendents who would like to place a strong emphasis on body mechanics will find this text valuable for the needed in-service training of teachers. A section devoted to organization and administration of the preventive and corrective aspects of the body mechanics program considers examinations and records, integration with school medical services, home-school-community cooperation, and the personal and professional requirements of the body mechanics specialist.

The writer recognizes habitual posture as a sign of the child's total mental, emotional and physical well-being. Of the utmost importance are the home environment, the medical examination and the follow-up care recommended by the school and family physician. At the same time teachers and parents should recognize that improved general health does not automatically lead to correction of faulty posture habits.

Improved habits must be taught so as to pervade the child's entire waking day. This is a task on which parent, teacher and physician must cooperate.

Grateful acknowledgement is made to Mrs. H. P. Rathmell and Dr. A. M. Weaver of Williamsport, Pennsylvania, whose belief in the school's responsibility to teach posture and body mechanics led to the valuable school experiences out of which this text emerges; to Dr. C. H. McCloy and Dr. Catherine Snell who so graciously criticized the manuscript; to Miss Belva Jean Korn who made the drawings; to Mr. Jim Kent of the State University of Iowa, Mrs. Helen Geesey of the Williamsport *Sun*, and Mr. William H. Williamson, all of whom contributed photographic assistance; and to the numerous authors and publishers who have permitted reproduction of copyrighted materials.

TABLE OF CONTENTS

Part I The Importance of Good Body Mechanics

<i>Chapter</i>	<i>Page</i>
1. A Problem in Teaching	1
2. Factors Influencing Posture	5

Part II Planning the Posture Emphasis

3. Organization and Supervision in Larger Communities	19
4. Home-School-Community Co-operation	28
5. Good Body Mechanics Described	34
6. Posture Examinations, Records and Grading	39
7. Posture Photographs	61
8. The Teacher's Plan	71

Part III Posture and Body Mechanics Activities

9. Teaching Fundamental Skills	85
10. Stunts and Games for Younger Children	101
11. Stunts for Grades 3-9	108
12. Exercises for Gymnasium or Playroom	115
13. Exercises in the Classroom	125
14. Relaxation Activities	128
15. Apparatus Activities with Posture Value	134
16. Academic Activities for Classroom Use	142
17. Motivation through Interclass and School-wide Activities	158
18. Activities in the Corrective Program	163
19. Visual Aids and Supplementary Material	171
Appendix (Posture Dramatizations)	179
Index	209

PART I

The Importance of Good Body Mechanics



Good posture can be taught.

CHAPTER ONE

A PROBLEM IN TEACHING

The development of a well-formed and efficiently-handled body should not be left to chance. In spite of the rapid strides in modern medical science, personal health practice lags far behind scientific knowledge. Many health education programs and agencies work steadily in school and community to reduce the gap between health knowledge and practice. However, these agencies have given little attention to the development of body mechanics and posture programs which are practical in the average school situation. Orthopedic physicians have long advocated this emphasis in school physical education as an effective prevention for chronic strains, later injuries, and breakdowns of the neuro-muscular system. Many specialists in internal medicine also have stressed body mechanics training as a force for the development of better human physiology.¹

Children can be taught to recognize in themselves the signs of good and poor use of the body. They can be motivated to want a physical development of which they can be proud, and which will serve them well through life. They can be helped to make desirable improvement where improvement is needed.

For a successful program of body mechanics, the emphasis must be on doing the skills rather than on talking about them. Too many children can stand in front of a posture poster and point correctly to the examples of good and poor

¹ See references, p. 26.

body mechanics. Yet while they glibly recite the signs of good and poor posture, they themselves stand with hips and head thrust forward and chest sagging down on the abdomen. Such children possess an academic acquaintance with the subject of posture, but they have failed utterly to apply any of this knowledge to themselves. Better posture will be achieved through physical activity and better health practice, not through words. And the activities must be so varied and so repetitious as to pass almost unnoticed from the gymnasium through the classroom and on to the common daily activities of the child.

The need for body mechanics teaching is widespread, if one may judge from the numbers of doctors, parents, teachers and others who criticize the postures of both children and adults. Knowledge and skill in body mechanics is basic to habitual improvement and is valuable even to those few fortunate individuals who seem to have no difficulty in maintaining habitually desirable carriage. Since the need is widespread, and since an effective approach should reach young children, the place to begin this type of training is certainly in the elementary schools or before. The most obvious single handicap to widespread adoption of body mechanics and posture training programs in the schools seems to be the lack of specific preparation for this responsibility on the part of those who teach health and physical education in the elementary curriculum. But this is a handicap which can be overcome.

A constructive and effective body mechanics emphasis can be presented by teachers who are in no sense specialists in the field of corrective physical education. Those who dispute this fail to distinguish clearly between two aspects of the body mechanics program: the truly corrective or remedial program which obviously requires the services of a specialist, and the broad educational or preventive program which is primarily a teaching problem and an intimate aspect of the daylong

home and school environment. It is difficult to see far enough into that Utopian future when there will be enough specialists in the field of body mechanics to direct programs for all the children in all our schools. What our schools need most today is not specialized corrective or remedial programs for the few, but developmental and preventive programs for all.

The classroom teacher is in a better position to present an educational and developmental body mechanics program which will permeate the school day than is the specialist, who can spend only a few minutes in each classroom. Classroom teachers have been concerned about the sitting postures of their pupils for years. Sometimes they seem more alert to the posture problems of their pupils than many sports minded physical education teachers. Where some definite effort is made to train the classroom teacher, his natural interest in body mechanics is fortified with the confidence which results from knowledge and preparation. The services of a physical education supervisor and of a specialist in corrective physical education should assist materially in this in-service teacher preparation. However, where such supervision is not available, the room teacher, interested enough to improve his own background, can make a very appreciable contribution to the development of desirable body mechanics habits among his pupils.

The materials and the discussion herein presented are designed for the elementary or secondary teacher who has not had specific preparation for the teaching of body mechanics activities. They will be particularly helpful on the elementary level where teachers with little or no formal professional physical education preparation teach the elementary physical education programs. The preparation of the teacher who wishes to accept this responsibility should include several emphases:

1. A familiarity with good body mechanics standards. It is not necessary to consider in detail the more technical criteria

for judging body mechanics. The teacher should rely largely on the general criterion of good balance, and elevation of trunk with simultaneous ease and relaxation of shoulder girdle and arms.

2. Close co-operation with home, school, and community health programs for the correction of remedial defects.

3. Familiarity with methods and materials through which body mechanics skills may be taught. This includes the ability to adapt these materials to the various age levels.

4. Acceptance of the habitual use of good body mechanics as the ultimate goal, rather than mere lip service to the ideal of good posture.

5. Awareness of the non-specialist teacher's limitations of knowledge and responsibility. The teacher does not diagnose or prescribe. He teaches.

The body mechanics specialist who wishes to develop a posture program in a school system will find the suggestions for organization of the program helpful. This program will be increasingly successful to the extent that it enlists the wholesale co-operation of superintendent, principals, teachers, pupils and their parents, as well as local medical and welfare agencies of the community.

CHAPTER TWO

FACTORS INFLUENCING POSTURE

The way a person carries himself makes an important impression. From his carriage or posture, people draw certain conclusions about his health, his vitality and his personality. Experience teaches us to expect enthusiasm for living, initiative, self-confidence and self-respect from a person with an easily erect posture. Most poor postures suggest just the opposite—dejection, apathy, lack of confidence and fatigue.

POSTURE AS AN INDEX OF HEALTH

Where posture improvement seems desirable, consider first the factors which make a person feel like standing, walking or sitting the way he habitually does. First look into his general health habits. Then take all possible steps to correct faulty influences. Only then will posture training and posture exercises bring the best results.

A truly healthy person possesses the vitality and the desire to make his most constructive contribution to society. This requires much more than an absence of organic disease or infection. Vitality is a product, in part, of a strong inherited constitution and adequate emotional integration, both personal and social. Vitality is commonly considered as a matter of vitamins, minerals and hours of sleep. Vitality is also a matter of ambition or drive. Other things being equal, vitality is greatest among those who are happy and secure in family affection, and among those who feel accepted and appreciated by friends and neighbors. Too often parents are so busy

building an ideal future material world for themselves and their families that they do not appreciate the immediate barren emotional life of their children. In some families, children suffer from the irritability and discouragement of parents struggling with financial and marital worries. Environments such as these leave visible signs on children in the way of depressed posture and hang-dog expression. It is natural and normal to slump when one is tired. It is just as natural and normal to slump when one feels personal or social inadequacy.

This book does not propose to elaborate the foundations of personal health and morale, nor the most effective educational methods for their development. It should be clearly understood, however, that the program of body mechanics training herein described is in no sense a substitute for an optimum individual health regime, including periodic medical examination, the correction of remedial defects, and healthful daily living, both in school and at home. One cannot exercise a tired, dejected or diseased body into an habitually improved carriage.

A HEALTHY SCHOOL ENVIRONMENT

Several factors of the school environment—seating, lighting, activity habits and pace of the daily schedule—are especially important to the problem of posture.

Seating. The modern individually adjustable type of seat and desk may be quite satisfactory. Take care, however, to adjust the seats to the children at least twice a year. (p. 93) Much of the school furniture now in use is not of this modern well-designed type. Children sit hour after hour each day with their feet dangling from chair seats too high and too deep for them to rest against the back except by slumping badly. A teacher cannot expect children habitually to sit well in such furniture. If no better furniture can be obtained, the teacher should not nag the children for their poor sitting

postures. For their relief, he should provide frequent opportunities for children to get out of their seats and move quietly around the room on various errands.

Lighting. Many recently equipped school buildings still are not furnished with adequate artificial lighting. Some schools urge teachers to conserve electricity to an extent which results in wholesale eye strain. Light on the top of the desk of the child in the corner farthest from the windows should be at least thirty foot candles. More is better. Test this with a simple lightmeter. In many instances, the quantity of light may be adequate, but the resultant glare on the paper provides strain. The teacher will do well to sit in several of the pupils' seats in various parts of the room, to determine whether a glare exists on the surface of paper or book when sitting in correct writing or reading position. Much squirming and slumping is an effort to escape this glare.

Activity Habits. The days of sitting in one seat from the opening bell until recess and from recess until noon should be gone forever. Children need to exercise their muscles and wiggle their bones and joints. The often-used "relief drills" are not the most desirable solution either, though they do offer respite from an unnecessarily regimented school room discipline. Ideally children should learn to move about a classroom quietly and without disturbing others. The school curriculum for young children should be so full of physical activity that no long periods of seat and desk work occur.

Pace of the Daily Schedule. Children in the classroom are always being told to hurry. "Hurry and get your wraps hung up." "Hurry and collect the papers." "Hurry, everyone is waiting for you." Continuous hurry—one of the very common causes of tension, nervousness, irritability and lack of concentration—leads to excessive fatigue. A school atmosphere of rush and turmoil has a direct effect on the fatigue of the children and shows in their listless postures. Keep voices low and the atmosphere of the room pleasant. When

a pupil gives vent to his displeasure, a teacher often considers him impudent. But some teachers express displeasure with a child in an ugly tone which irritates the entire class, and even the pupils in other rooms in the school as well.

The routinized school program makes some children more tired than others. Provide one or two cots in the back of the classroom. Teach these children to lie down for fifteen minutes at a time and to ignore the class, and train the class to ignore them. This rest would so refresh these children that the time devoted to relaxation would be made up by more efficient and purposeful occupation later.

NEED FOR SPECIFIC BODY MECHANICS TRAINING

It is foolish to expect a program of corrective exercises to cure poor posture brought on by fatigue, infection or discouragement. However, removing the causes of the fatigue, infection or discouragement does not automatically transform an habitually poor carriage with its forward thrust hips, sagging trunk and flattened chest into a well balanced, erect alignment. The nearsighted person is not aware that he thrusts his head and neck forward awkwardly in an effort to see more clearly. When his nearsightedness is corrected, he does not automatically draw his head back into a more becoming alignment. His upper back and chest, and indeed, his entire neuro-muscular posture co-ordination have become adapted to the forward head position. This peering sort of posture persists long after the need for it is removed. If the child is to improve his posture, he must be aware of the fault and learn how to correct the fault. Finally, he must make this conscious correction so often that the new habit gradually displaces the old one. Four steps are necessary: wanting to improve, removing the underlying cause, learning a better pattern, and practicing the new skill until it becomes a habit.

Few children or adults escape all of the many debilitating influences of present day living. Therefore, the educated per-

son should be alert to the common postural defects which may result from exposure to these debilitating influences. He should know how to co-ordinate his body segments into the best possible alignment. With this knowledge, he will be better able to fight the continuously depressing action of gravity, and forestall poor posture habits.

The earlier in life the child acquires the necessary skills, the greater are his chances of using these skills to the point where they become habitual and unconscious. Bodily structures develop in the growing child largely according to the way he uses these structures. It is far easier to carry good posture through childhood into adulthood than to rehabilitate poor posture which has been present over a number of years, and has resulted in bony and soft tissue deformation.

CONSCIOUS VS. HABITUAL POSTURES

The individual who seems able to maintain a good alignment without apparent effort may be somewhat intolerant of his less fortunate friends who either do not know how to stand and walk well or, if they do know how, have extreme difficulty in carrying out what they know to be correct. This intolerant friend may think that anyone can stand well if he cares enough about his appearance to want to look his best. If one has normal flexibility he can shift from one posture to another at will. If he does not like the effect of one posture he can put on another. This is true for the purely conscious moment. But one's posture during moments of conscious effort is not as important as the habitual and unconscious postures which one exhibits all day long. These habitual postures are the ones important for appearance and health.

THE SKELETON IN THE UPRIGHT POSITION

Posture is a distinct problem to humans because the skeleton is fundamentally unstable in the upright position. A four or even a three-legged chair or stool can be quite stable. But

who ever heard of a two-legged piece of furniture? The two-legged human body presents a continuous problem in maintaining balance, a problem augmented because the feet are a very small base of support for a towering superstructure. And as though this were not problem enough, the trunk,

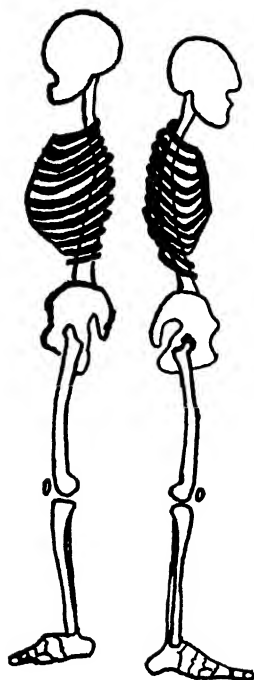


Fig. 1—Gravity tends to depress the trunk.

head, and arms are supported from the hips upward by a one-legged arrangement of the spine. (Fig. 1)

A further difficulty comes from the fact that the body is composed of a large number of segments. These segments must be held together at all joint contacts, and must be controlled and moved by many muscles arranged around the joints. Energy is needed for this control.

The Effect of Gravity. The force of gravity continually presses objects toward the earth. It exerts this force on all parts of the human body. If a person did not unconsciously use muscles he could not stand erect against this force of gravity, yet he is seldom aware of this muscle contraction. Because the right and left sides of the body are identical in size, shape and weight, gravity pulls evenly on both sides of the body. As a result, the postures of most individuals are quite symmetrical when seen from the back. However, examination of the front and back halves of the bony skeleton as seen from the side shows great differences. No support up the front of the body corresponds to that provided by the spinal column up the back. Under the force of gravity, the body tends to collapse forward, especially if muscle control is inadequate. (Fig. 1)

Because the body is so flexible, and because it is asymmetrical, the job of staying erect against gravity makes far greater demands on certain muscle groups than on others. These heavily used muscle groups are frequently called the anti-gravity muscles. Because they are so important in maintaining erect standing postures, they are also called posture muscle groups.

Using muscles always requires some energy expenditure and produces some fatigue. *Conscious* or *voluntary* use of muscles produces more fatigue than *unconscious* or *involuntary tonic* contraction. The anti-gravity or posture muscle groups are heavily equipped with tonic fibers particularly constructed to maintain contraction unconsciously. Using these tonic fibers makes balance and erect posture relatively inexpensive of energy consumption. When muscles are continuously stretched by habitually poor postures, they lengthen and their tone diminishes. General fatigue also diminishes the tone of muscles. When the anti-gravity muscles are fatigued or stretched, desirable postures can no longer be maintained by unconscious control. Improvement can only be main-

tained consciously. The chronically fatigued individual can ill afford this more expensive voluntary control, and therefore slumps. This explains why many individuals when they have sporadic urges toward posture improvement report that a good, consciously maintained posture is so much more difficult than the poor habitual one.

Hanging on Ligaments. Individuals too commonly fall into postural habits where the shoulders and upper trunk are carried backward and the hips forward. In such positions they hang on the ligaments which cross the front of the hip joint and on those which hold the various spinal bones in a column (Fig. 5, No.'s 4 and 7), because in this posture the anti-gravity muscles of the trunk are required to expend little energy. The strain falls largely on the ligaments. These ligaments are able to withstand strain for short periods without damage or complaint. But over longer periods, as is the case with poor habitual standing and walking positions, or through long hours of sitting, the ligaments may fail to protect joints adequately. Such poor body mechanics, if persisted in, allow some bony surfaces to come too close together, and lead to irritation of joint surfaces. Ultimately normal skeletal development may be interfered with and painful symptoms arise. Therefore, avoid postures which involve continuous leaning on ligaments.

A person's posture is not a single position constantly maintained. In the upright position, he normally sways slightly forward and back and from side to side. The sway is due to continuous slight muscle contraction, which is the body's successful method of avoiding the strain of positions continuously held. If a person's habitual posture involves much leaning on ligaments, he does not sway as readily as he otherwise would, because he is already balanced at one extreme of his total range of possible movement. Hence, he develops local strains more rapidly. This is a second objection to the type of posture which involves leaning heavily on the ligaments around joints.

THE ANTI-GRAVITY MUSCLES

The anti-gravity muscles are those which need to be strong and well co-ordinated if one is to show good body mechanics or improve faulty habits. (The physical education activities in Chapters 9 through 16 stress development of these muscles).

Foot. The strain of standing tends to lower the arch of the foot. To withstand this strain, the sole of the foot is heavily supplied with ligaments and muscles which act as buttresses. The heel bone is not centered under the ankle joint, but instead is located more to the outside of the foot. The arch is much higher on the inner side of the foot. To overcome this unbalanced structure, greater ligamentous and muscular strength is needed on the inner side of the foot. The muscles and ligaments which are most important in preserving strong feet are, therefore, those of the inner side of the lower leg and foot, and those on the sole of the foot. These muscles may be considered the first set of anti-gravity muscles. (Fig. 2, A₁)

Ankle. The body sways forward and backward over the foot, with the movement taking place at the ankle joint. However, since the leg is attached to the foot much more toward the heel than at the center of the length of the foot, the body must normally be balanced slightly forward of the ankle in order to center its weight over the length of the foot. This means that the muscles of the calf of the leg, which are attached on the heel bone, are the second set of anti-gravity muscles. (Fig. 2, A₂)

Knee. The upper and lower legs of most persons form an almost straight line at the knee. From this straight position, the leg can be bent in one direction only—backward. Any time the body weight sways backward, gravity causes the knees to bend, unless the muscles of the front of the thighs are contracted. These muscles are essential in keeping the legs straight, and constitute the third set of anti-gravity muscles. (Fig. 2, A₃)

Some knees can be pushed backward so that the upper and lower legs, instead of being straight on each other, are bowed backward. Persons with this type of knee action frequently stand in this backward bowed position, thus placing a strain on the knee joint. (Figures 3 and 4, No. 3) When teaching correct standing posture skills, notice whether this backward bowing (hyperextension) habit is present, since the fault is commonly associated with posture defects in the lower part of the back, particularly hollow back.

Hip. In normal standing, the trunk and the upper leg make an approximately straight line. In this position the weight of the trunk is brought as close over the hip joint as possible, a position which lessens the amount of muscle action required to hold the trunk erect. Some muscle action, however, is still necessary. From the upright position, the pelvis and trunk can bend forward until the head is close to the knees. In standing, muscle control must be ready to prevent this collapse. However, from the erect position, very little backward bending of the pelvis on the upper leg is possible. This backward movement is prevented by the shortness of the ligaments crossing the front of the hip joint. To hold the trunk and the upper legs erect against the forward bending force of gravity without leaning on the ligaments, the muscles across the back of the hip joint must be called into play. These buttock muscles then constitute a fourth set of anti-gravity muscles. (Fig. 2, A₄)

The Trunk on the Pelvis. The spine acts as a single column of support for the trunk, head and arms. Because the spine is located more toward the back than toward the front of the whole trunk mass, and because it is attached to the pelvis more toward the back than toward the front, the entire trunk has a tendency to fall forward. This tendency becomes increased by the fact that most of our daily activity is concentrated in front of the body under focus of the eyes. To control this forward drooping of the trunk, the entire back muscula-

ture is called into play. These back muscles extending from the pelvis to the head, constitute the fifth set of anti-gravity muscles and are very important to habitually good posture. (Fig. 2, A5)

The spine, a flexible column, also permits the trunk to

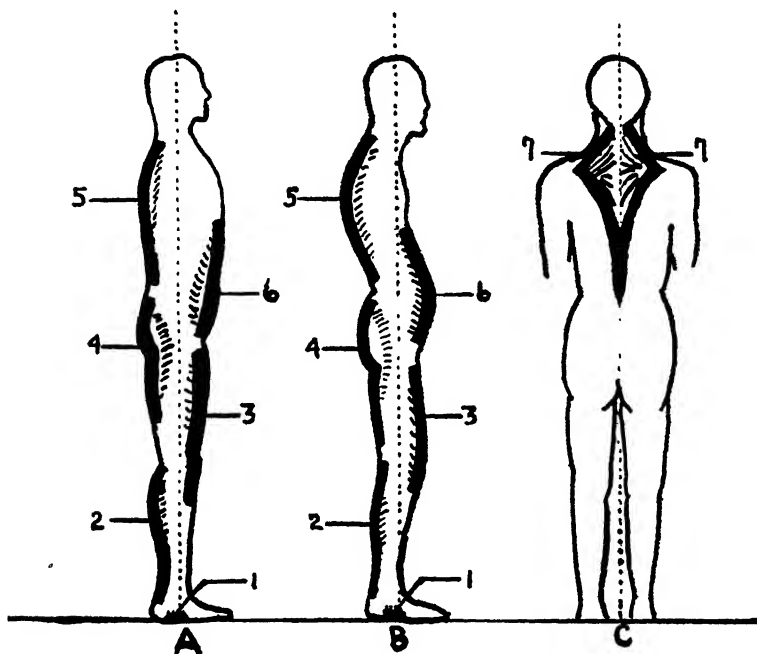


Fig. 2—The posture muscles: 1) On the sole of the foot, 2) the calf of the leg, 3) the front of the thigh, 4) the back of the hip, 5) up the back, 6) the abdominal wall, 7) between the shoulder blades.

bend backward. Whenever this backward movement takes place, the entire abdominal muscle wall is called into action. This muscular wall must also hold the abdominal contents in good functioning position. The abdominal muscles then are the sixth set of anti-gravity muscles. (Fig. 2, A6) A subtle and ever fluctuating interaction of the back and abdominal

muscles is essential to maintain the trunk over the pelvis in an erect position. Where the trunk is carried far behind the hip joints, the weight of the trunk rests on the ligaments across the front of the joint and allows the abdominal muscles to relax. This posture requires less muscular effort to maintain, but it results in poor postural adjustments in the upper part of the trunk which further exaggerate the poor posture of the individual. (Figures 3 and 4, No.'s 2 and 4)

The Upper Extremity. The only point at which the shoulder girdle and arms are jointed to the trunk is at the upper margin of the chest below the chin. Here the collarbone is jointed to the top rib and to the breastbone. The collarbone then carries the weight of the shoulder blade and the entire arm. The shoulder blade is not jointed to the spine or to the ribs in back, but is quite freely movable. The shoulder, therefore, can and does easily slide forward around the ribs. This disposition to gravitate forward and downward is accentuated again by the concentration of most of our manual activities forward under focus of the eyes. The weight of the arms in front of the trunk tends further to depress the chest and round the upper part of the spine. This deformity can be prevented and alleviated by the strong development of the muscles which draw the shoulder blades backward toward the spine. These shoulder retractor muscles constitute the seventh set of important anti-gravity muscles which must be considered in good posture development. (Fig. 2, C7)

FACTORS CONTRIBUTING TO MUSCLE STRENGTH AND WEAKNESS

Muscles rely for their strength on frequent use. To grow stronger, they must work under increasing loads. This is known as the overload principle. Without alternating contraction and relaxation, muscles lose their elasticity and strength. The important question then is whether these seven anti-gravity muscle groups receive enough exercise in the daily activities of the modern individual. The very name

"labor saving devices" suggests that the recent technological advances of our age have freed the human body from a great deal of the muscular activity which was formerly necessary for survival. Although daily work has not yet reached the pushbutton stage, it has made progress in that direction. So have recreational tastes with their emphasis on radio, movie, bridge and reading in preference to more vigorous outdoor hobbies. Of course, persons do walk, climb stairs, and occasionally run, activities which should and usually do provide enough exercise for the anti-gravity muscles of the upper and lower leg included under muscle groups 2, 3 and 4. However, the muscle groups of the trunk, the back, abdominal and shoulder muscles included under groups 5, 6 and 7, and, to a lesser extent, the foot muscles included in group 1, are seldom required to work very strenuously. It is not surprising that these muscles are often rather poorly developed, and thus do their job of supporting the trunk rather indifferently.

Modern daily living, especially for city dwellers, requires little muscular strength. Urbanites often do not maintain enough strength and co-ordination to handle their bodies efficiently. When occasional vigorous activity is required of them, injuries or muscle strains are common. These people frequently find recreational sports so fatiguing that they lack all zest and interest. Flat city pavements and modern footwear restrict the activity of the feet and hence contribute directly to weak foot musculature. Standing and walking on flat pavements create repeated strains on a few critical areas of the feet, rather than spreading the strains over the entire foot structure. These repeated strains on the same areas of already under-exercised feet in poor footwear lead to foot complaints which are characteristic of a large percent of the adult population.

Muscles are further weakened by prolonged stretching. Habitually poor postures expose the anti-gravity muscles of the back, abdomen and shoulders to prolonged stretch. As

the upper back is rounded and the chest sinks, the muscles of the back are stretched around the outside of the increased back curve. This rounding of the back is accompanied by a forward droop of the shoulder girdle which in turn stretches the muscle fibers from the spine out to the shoulder blades. As the chest sinks, it carries the contents of the thorax (heart, lungs and their blood vessels) downward pressing on the contents of the abdominal cavity. The abdominal contents are then pushed downward and forward against the abdominal muscles. This pressure places a continuous stretch on the entire abdominal muscle wall. (Fig. 2B) These stretches have the general effect of weakening the very muscle groups which need to be strong to encourage habitually good carriage.

Summary. The preceding discussion shows why poor posture is frequent and what must be done to improve it. The human structure is not ideally suited to the upright two-legged fashion in which we use it. Gravity continually tries to push us down toward the ground. Continuous muscle contraction and minute subtle muscle co-ordination are necessary to combat the depressing effect of gravity. Modern sedentary living offers debilitating influences to one or more of which most of us fall prey at some time in our lives.

The intelligent person should know enough about fundamental body mechanics to be able to recognize incipient posture faults in himself. He must have the skill to carry out self-correction, and the pride and perseverance to develop an habitually desirable carriage. He should also realize the key place of good health in supplying the energy necessary to combat the sagging effect of gravity.

Teachers must encourage high standards of performance in the activities which teach better postural alignment and which provide particularly for the development of back, abdominal and shoulder muscles, the strategic muscles in good alignment. Part III is devoted to activities for these purposes.

PART II

Planning the Posture Emphasis

CHAPTER THREE

ORGANIZATION AND SUPERVISION IN LARGER COMMUNITIES

PRELIMINARY CONSIDERATIONS

No one blueprint can be offered for the development and supervision of a community-wide posture emphasis through the schools. Certain general problems must be faced, but their specific solutions depend upon what the community will support, and upon intelligent use of available facilities including equipment, space and personnel. These problems include:

1. The plan for organization and supervision of the program
2. Selling the program to superintendent, school board, teachers and community
3. Appraisal of the existing health and physical education program of the schools, into which the posture program should be integrated
4. Appraisal of medical and orthopedic support available to the program
5. Administrative policies and teacher attitudes toward in-service training of teachers
6. Appraisal of existing space and equipment

The Plan for Organization and Supervision. In the early stages of the posture program, enthusiastic supervision and sound long-range organization are essential, for on them hinge the success of the program. Give one person chief responsibility for the program with an advisory committee to share in the planning and to help spread interest in the pro-

gram. The key person may be the supervisor of health and physical education, one of the assistant supervisors, or a special supervisor with no responsibilities other than for the body mechanics program. Whatever the supervisor's specific title or total duties, he should have authority to integrate the body mechanics program with the existing school health and physical education program and with the general academic program.

Success of the program depends in large part on the qualifications of the supervisor. (1) He must have a personality which makes contacts with superintendent, principals, supervisors, teachers, pupils and parents easy and productive. (2) He must be thoroughly familiar with the field of body mechanics. This will usually require specialized body mechanics training beyond the undergraduate physical education training, and culminating in a master's degree. (3) He must be familiar with the ethics of teacher-nurse-technician-physician relationships. (4) He should have had teaching experience preferably on the public schools level and involving organizational and supervisory responsibilities.

The advisory committee should include a school physician and/or an orthopedist, a school nurse, and health and physical education teachers who have specific teaching responsibility for the body mechanics program on both elementary and secondary levels. Parents and social agencies might also be represented. This committee should develop and sell the program to the community.

Selling the Program. In order to motivate the community, including some school administration personnel as well as parents, the committee must first demonstrate the need for such a program, and second outline a program which should meet this need. If demonstrating a local need for the program must come before engaging a supervisor, someone vitally interested in the project should be delegated, or take it upon himself, to create enthusiasm in the community.

The need for the posture program can be established most convincingly by presenting some evidence of the level of posture skills of the children. Inspection of a representative cross section of the school population may be done by the school doctor, body mechanics supervisor, a physical education teacher, or other qualified assistant. Some data for the survey may already be available in the records of the school medical examinations. Minimum data should include incidence of (a) mild, moderate and severe antero-posterior posture defects; (b) mild, moderate and severe lateral curvature; (c) mild, moderate and severe defects of foot statics; and (d) miscellaneous orthopedic conditions not under treatment.

The data should be tabulated to point out the incidence of conditions amenable to the type of school program envisioned. Where a local survey is not feasible, data from previous surveys and published opinions by prominent authorities in the field may be used.¹ Posture picture records of "before" and "after" cases offer many convincing talking points. (Chapter 7) The findings should be summarized and mimeographed for distribution and discussion at meetings of school boards, principals, teachers, parent-teacher associations, service clubs and welfare agencies. The supervisor should personally present the data and outline the anticipated program before as many of the above named groups as possible.

Appraisal of the Existing Health and Physical Education Program in the Schools. Since the posture program for elementary schools will be conducted largely as an emphasis of the health and physical education program, it is important to evaluate the existing elementary physical education program. Where a community has well-trained physical education teachers for the elementary grades, or a well supervised program for the classroom teachers who are responsible for the health and physical education activities of their children, it

¹ See suggested references at end of chapter.

will be comparatively easy to develop a strong posture emphasis. Where physical education training and supervision are inadequate, the physical education program may be too weak to support an effective body mechanics emphasis. The supervisor should know his local situation and how much background and skill to expect of his teachers. He should also know the present time allotment for the whole health and physical education program and whether additional time is needed and can be obtained for the posture emphasis.

Appraisal of Health and Medical Service in the Schools. Good posture development requires healthy vigorous children. Toward this end, the supervisor should know how effectively the school health service is functioning. Will school physicians back the program? Will the school medical examination provide data on postural habits, lateral trunk symmetry and foot statics and recommendations to the teacher? If not, the data will need to be obtained through the posture program, and examination procedures acceptable to school physicians will need to be developed.

Does the medical service detect remediable defects? Does the follow-up program lead to a high percentage of corrections? Does the school health service co-operate adequately with the home in the prevention of defects? How will orthopedic consultation and treatment be made available in the community for those pupils whose conditions require diagnosis and prescription for treatment?

The General Policy of the School District Toward In-Service Training. Will the school administration support the needed in-service training program, giving it a proper place in the scheduled load of the teachers? Do the teachers take kindly to such programs? If not, the supervisor should realize this in advance so that groundwork for gracious acceptance of the new plan may be laid.

Appraisal of Existing Space and Equipment. These considerations have intentionally been left until last because they

are not critical. A carefully thought out and well organized program which has the enthusiastic support of the school personnel, school health services and local welfare agencies can go a long way toward its objective of habitual good posture in spite of meager space and limited equipment. It is well, however, to support all possible action for improvement of these conditions since they are of great importance to the whole physical education program and thus to the success of the posture program. Minimum space and equipment requirements will depend upon the type of program to be offered and will be discussed in this chapter and later in Chapter 8.

ORGANIZATION OF THE PROGRAM

Having inquired into these six aspects of the local situation, the supervisor should be in a position to plan a program which will meet the needs of the local schools. Two basic programs, preventive and corrective, should be offered, if possible.

The Preventive Program. This program reaches every pupil in the schools. It presents acceptable standards of body mechanics in daily life skills, together with motivational efforts and physical education activities designed to develop desirable habitual skills. The preventive program, an integral part of the health and physical education program, is taught by the teacher responsible for physical education in each grade, whether it be a trained health and physical education teacher or the classroom teacher with little specific training for teaching physical education.

The supervisor should select standard methods for evaluating the pupils' present body mechanics knowledge and skills and their future progress, and train all teachers to use these methods. (Chapter 6) The supervisor plans the general curriculum, but permits each teacher to make the final selection of activities in accordance with his special interests and

the space and equipment at his disposal. He also offers suggestions on ways in which the teacher can improve his teaching presentation.

The Corrective Program. The corrective program is made available to those children who show outstanding body mechanics faults which have not improved through group attention to health habits and posture training under the preventive program. Where an effective preventive program is operating, there will be far fewer children needing the services of a corrective program. The activities of the corrective program should be much more closely supervised than those in the preventive program, and ideally should be taught entirely by the corrective physical education specialist. However, a feasible plan for several schools under one supervisor may be worked out if an enthusiastic trained physical education teacher in each school is scheduled for enough periods to meet the required number of small posture groups at least once and preferably more than once each week. The supervisor can then plan to teach each group at least once a month while the physical education teacher observes and assists. The physical education teacher takes charge of the group the rest of the month. In this way, the teachers receive in-service training on methods and new materials, and the supervisor follows the progress of the children and the teacher.

Orthopedic consultation for atypical cases, and for those not making desirable progress, if it does not already exist in a community, can often be obtained through the auspices of local or state crippled children's organizations. The corrective program should, of course, make the most extensive use possible of school health and medical advisory service in raising the vitality of pupils to a high level and in locating and eliminating any debilitating factors in the pupils' environment.

Posture Examinations and Records. Examinations and records should be only as detailed as is necessary for the uses

to which they will be put. If the program is limited to the preventive type taught by the classroom teacher or other non-specialist in physical education, highly detailed examinations and records serve no purpose. However, if some children are to participate in a more individual corrective type of program, their examinations and records need to be somewhat more detailed so as to provide a basis for planning their activities and estimating their progress. (Chapter 6)

Space Requirements. The preventive program uses the same space facilities as the general health and physical education program, including an adequate gymnasium wherever available. The corrective program will involve only a few children at any one time. Therefore, any small room may be quite satisfactory if the floor is clean enough for the children to lie on.

Equipment. The essential items for each school include a long mirror, a hanging bar, various boards and sandbags to balance on pupils' heads, posters and other visual aids and floor cloths, if the floor of the room is not suitable for the children to lie upon. This equipment is described in more detail in Chapter 8. Much of it may be improvised by the pupils or by the teacher. In some schools, the parent-teacher associations aid in providing it.

First Steps in the Teaching Program. Enlisting enthusiasm of teachers, pupils and parents will probably be the major objective throughout the first year of the new posture program. The supervisor should select one or two projects which may be expected to yield quick and gratifying results, and develop confidence on the part of the teachers as to their ability to contribute effectively to the program. Suggestions follow:

- (1) Hold citywide teachers' meetings, one for grades 1-3 and another for grades 4-6, in which the supervisor gives a pupil demonstration of simple techniques which classroom teachers can readily use.

(2) Conduct a series of demonstration lessons in every classroom or in one or two key classrooms in each school. Include the simple techniques which the teacher will find effective in appealing to his pupils.

(3) Inspect a group of pupils selected by the teachers of each school. Invite the teachers and principals to observe. Discuss the conditions observed in terms of action which should lead to improvement.

(4) Take posture pictures of a few children who show especially interesting posture problems,¹ and use them as talking points for the type of program which is needed.

(5) Assist in planning assembly programs devoted to the subject of posture.

(6) Take advantage of all opportunities for radio, newspaper publicity, and group and individual parent contacts. (See Chaps. 4, 16 and 17.)

REFERENCES

The following authorities are among the many physicians and orthopedists who offer convincing evidence of the need for widespread posture teaching, and who consider the school the most effective agency for such programs.

Hardy, M. C., Boyle, H. H., and Newcomb, A. L. "Physical Fitness of Children from Different Economic Levels in Chicago." *J. Amer. Med. Assn.* 117:2154-2161 (Dec. 20, 1941)

7500 children representative of the general child population of Chicago showed the following conditions: 25-30% with flabby muscles, 42-47% with poor posture, 14% with pronated feet.

Hardy, M. C. "A Study of Health Needs of Chicago Children Receiving Grants from A.D.C." (Aid to Dependent Children Service of Cook County, Illinois.) *Social Service Rev.* XIX:2:201-217 (June 1945)

1068 children receiving financial aid showed the following

¹ Respect the privacy and identity of the pupils whose pictures might be used for this purpose.

conditions: 38% with flabby muscles, 36% with poor posture, 46% with foot abnormalities, 15% with spinal abnormalities, 25% with rachitic chest deformities, 73% with leg deformities.

Goldthwaite, J. E., Brown, L. T., Swain, L. T. and Kuhns, J. G. *Body Mechanics in Health and Disease*. J. B. Lippincott Company, Philadelphia, 1941, Chap. 14.

"Faulty body mechanics is an almost universal finding among children and untrained individuals." p. 274

"We believe that the same programs of education and training which have proved effective in preventing or minimizing the ravages of disease and improving health and well-being can be used in fostering good body mechanics." p. 273

Whitman, Royal. "The Importance of Positive Support in the Curative Treatment of Weak Feet." *J. Orthop. Surg.* 11:215 (Oct. 1913)

"It is in childhood that the prevention of subsequent weakness and deformity is of the first importance."

Kuhns, John. "Physical Therapy in Disabilities of the Foot." *Physiotherapy Rev.* 21:3:147 (May-June, 1941)

80% of all adult persons are said to suffer from some sort of foot disorder. Over 50% of children have some weakness or other foot disorder. It is necessary to teach good carriage of the body and good use of the feet.

Lee, R. L. "Some Confessions of an Internist Regarding Body Mechanics." *Amer. J. Physiol.* 5:747 (1923)

"Poor posture and foot conditions under artificial conditions of civilization do not tend to correct themselves. . . . A majority can be benefited by intelligent instruction and will show excellent results in middle life."

Klein, Armin. "What Price Posture Training?" *J. Health and Physical Educ.* 10:3 (Dec. 1932)

Good body mechanics training continued over a long period of time leads to good results. . . . Supervisory teachers are needed to assist grade teachers with the body mechanics program.

Hansson, K. "Posture and Body Mechanics." *J. Health and Physical Educ.* 16:549 (Dec. 1945)

The writer, an orthopedist, pleads for the widespread adoption of posture training as an integral part of the physical education program.

CHAPTER FOUR

HOME-SCHOOL-COMMUNITY CO-OPERATION

If the home and the school go their separate ways, the one can readily negate the influence of the other. Furthermore, a teacher cannot hope to understand a pupil's behavior in school and interpret it wisely if he does not appreciate the home background out of which the behavior springs. Posture is, of course, in large measure a reflection of the general physical and mental health and stability of the child. As such, it is probably influenced far more by the home than by the school environment. Effective planning toward the development of habitually desirable body mechanics skills cannot ignore the child's background and general health status.

Similarly, the whole school posture program cannot afford to ignore the potential support of individual parents and of the entire community. Consider the place of the local school posture program in the wider school health program, and the support which the community, the home and the school can give each other in developing it to maximum efficiency. Failure to provide this integration led to disappointing results in posture improvement efforts in physical education in the past, and, in turn, frequently led to complete abandonment of efforts at posture improvement in the schools. A body mechanics program will not be effective unless the community is ready and willing to accept it. Motivation within the individual school, within the school district as a whole, and within the community is an essential preliminary.

Determine how the objectives of the school posture program fit into the community plan for public welfare. Are

other agencies trying to give the same service? Great effort is often made to eliminate overlapping of services among welfare agencies. However, the overlapping of services is far less serious than the gapping of services.¹ When overlapping does occur, all agencies concerned must plan to co-operate rather than to compete against or ignore one another. It is very possible, and has happened,² that the local tuberculosis society in the course of chest examinations will become concerned about the poor postures encountered, and will refer these cases to the local crippled children society which in turn will put a strong emphasis on posture correction into its services, and later convince the school board of the need for a broad school posture program. A newly developing school posture program could gain support from these organizations and, in turn, assist them through its school program. Where a school posture program gains the confidence of the local medical society, a two-way exchange of service may also be developed.

The majority of parents have reached a level of self-consciousness at which they appreciate the value of an erect and vigorous carriage as an expression of personality and as a normal concomitant of good health. Almost all children admit that their parents chide them about their postures. Some degree of parent motivation then has already been accomplished. It remains for the school to (1) inform the parents of its interest in children's postures, (2) disseminate correct information on the subject, (3) provide supervised opportunities for the development of good posture skills, and (4) provide a school environment conducive to the maintenance of a high level of health and vigor.

How Parents Can Aid the School. In the first place the parent should provide for each child the kind of home environ-

¹ Powell, Frank V., Address at National Society for Crippled Children and Adults Convention, November 1944, Chicago.

² Williamsport, Pennsylvania.

ment which sends him to his first school experience with ample vitality and with no firmly established postural faults. Toward this end, the parent must know how the various aspects of healthful living, nutrition, rest, exercise, early body mechanics habits, freedom from disease, and emotional adjustments influence the early physical development of every child. The parent must recognize that early posture faults are in most cases the result of health abuses which have lowered the child's vitality, both physical and mental. The parent must realize the importance of locating the causes and removing them, instead of nagging the child for a fault which, in many cases, he cannot help.

In the second place, the parent needs to have good standards by which to evaluate his child's posture. He may then follow his child's progress, and seek advice where necessary early enough to be able to achieve maximum benefits, frequently before the child enters school. Parents also need to know a few effective ways of encouraging children to want the improved appearance which comes with a vigorous and confident posture. Toward this end the parent should remember the tremendous influence of his own personal posture example. The parent needs to know what posture emphasis the school is giving, so that home efforts may reinforce those of the school. For example, both school and home should emphasize the use of furniture adapted to the size of the child. The parent can also supervise at home any posture activities learned at school. This kind of homework can draw the family together in co-operative effort.

Schools too frequently set standards with regard to nutrition, personal hygiene, rest, fresh air and posture which even the best homes fail to meet because these standards have not been specifically called to parents' attention by the school. Failure of the home to meet these standards either causes the child to lose confidence in the importance of the school instruction, or else places him in the position of having to con-

demn his home environment.¹ Either reaction is undesirable and in most cases quite unnecessary.

How the School Can Aid the Parents. The long-range school contribution is through health teaching in all the grades, especially in high schools where this teaching should provide an adequate background of fact with direct application to problems of parenthood and child raising. A more immediate school contribution is through the parent-teacher associations. Here is an opportunity for (1) illustrated lectures at open meetings; (2) distribution of inexpensive or free pamphlets;² (3) individual discussion between parent and teacher regarding a child's problems; (4) physical education demonstrations which present evidences of progress with the school posture program; and (5) study groups devoted to health problems, including posture and its relation to the child's health.

Closer contact will be needed with the parents of children with specific postural deficiencies. Arrange individual conferences with these parents wherever possible. Invite the parents to visit the school to observe posture teaching. This observation will serve to answer many of the parents' first questions, and will also serve to raise questions which the parents will want to discuss individually with the teacher.

Parents have very real limitations in their capacities to deal objectively with their own children's problems. Parents often find it difficult to accept criticism of their children without interpreting it as criticism of themselves. In health matters, parents often have so little factual background that they are unable to make valid judgments. Sometimes they do not wish to get at the facts, but prefer to reenforce their own previous conclusions. In other cases, parents may become almost hysterically apprehensive, though occasionally they are quite

¹ Kletzner, Mrs. W. "What Parent-Teacher Associations Can Do," *Understanding the Child*. 11:9-22. (June 1942)

² See suggestions, p. 174.

apathetic. The teacher will want to let the parents do much of the thinking, and, if possible, lead them to feel that they themselves have voluntarily decided upon the desirable course of action. Before a conference with parents, the teacher should know the significant findings of the school medical examination, the quality of the child's work, and any record of personal or social adjustment problems which are significant.

In the conference with a parent, at least three general areas should be discussed: the postural conditions noted, the personal history as it applies to the problem, and the course of action to be taken. The teacher may re-examine the child in the presence of the parent. Posture picture records of the child will help the parent in understanding the faults. Great care must be taken to be sure that deviations are not exaggerated so that the parent becomes unnecessarily alarmed.

To obtain data on the history of the child, have the parent fill out a standard health history blank. This procedure often baffles a parent who has had little formal education and may antagonize him. Should this be the case, enlist the information desired through an informal discussion with the parent. Ask him about his child's present health habits and level of general health, past serious illnesses and their outcomes, and recent medical attention. Plan with him the desirable course of procedure, and solicit the parent's willingness to carry out the plan. Will he take the child to his physician or an orthopedist for examination or will he permit the school to arrange for such examination? Will the parent make an effort to adapt the home environment to meet any special needs indicated for the child? The teacher should make no effort to assume the responsibilities of the doctor and should not make a specific diagnosis. But without doing this, he can be very helpful in an advisory capacity.

No matter how congenial and how constructive a teacher-parent conference may have seemed, the teacher should plan

further reenforcing contacts with the home. Additional visiting days at the school posture groups should be arranged. Brief written suggestions for home emphasis may be prepared by the child and teacher together and taken home by the child. A mimeographed or printed list of home exercises can be developed in which the exercises to be done by each child are individually checked together with the number of times the exercise is to be performed. The blank should also include a space in which additional comments or special individual exercises may be added. Before the lists are sent home, the children should be thoroughly familiar with the exercises. The home responsibilities of the child and the parent can be stressed by including with the list a pledge which he and his parent may sign. In this way, the teacher gets an idea of which parents are interested though, of course, he has no positive assurance that the home exercises will be continued with any degree of effectiveness.

The vast majority of parents are deeply interested in the welfare of their children. They are grateful when they detect genuine interest and sympathy on the part of teachers toward their children. Parents will come to the school if they feel that they are really wanted, and if their visits reap values commensurate with the effort it sometimes costs them to come.

CHAPTER FIVE

GOOD BODY MECHANICS DESCRIBED

Since the approach recommended here is primarily a teaching one, all medical and orthopedic terms have been omitted. The non-specialist would do well to avoid such technical terms as kyphosis, lordosis and scoliosis, and even such everyday and much misused terms as sway back and flat feet. When specialists in the field of orthopedics hear these terms used loosely or incorrectly, they question the competence of the speaker. Such doubt or suspicion will interfere with the favorable doctor-nurse-teacher co-operation which is so valuable in a body mechanics program. Although the non-specialist teacher who is presenting a posture and body mechanics emphasis in the physical education program should be able to recognize the children who are not improving through group instruction, he does not need to diagnose and label the faults. He does need to give these children individual attention and assistance. If this individual attention still does not bring desirable results, the teacher should then refer such children for examination and diagnosis by a specialist.

Emphasize Elevation or Erectness. Poor posture results primarily from the failure of the body to withstand the sagging effect of gravity. The most important concept in good posture development is erectness. "Stand tall" or "stretch up tall" or "push your head toward the ceiling" are good talking points. If a person really stands as tall as he can, his spinal curves will become more shallow, his abdominal muscles will be retracted slightly, his chest will be high, and his whole body weight will be better centered over his feet.

Often it is not enough merely to tell a person to stand tall. The teacher must be sure that increased height really follows the effort. Several common errors are apt to follow children's first attempts to stretch tall. One of these is to throw the shoulders back and another to push the chest out. Both of these acts may produce a hollow lower back and a general distortion of body balance. (Figs. 3, 4, No. 1) Another error, especially common among adolescent girls and women, is to draw in the abdomen and tuck the hips under so exaggeratedly that the upper back begins to round and the chest sinks. (Fig. 23, posture labeled, "Hold Your Tummy In.")

Encourage Relaxation. Ask a group of kindergarten or first grade children to stand straight. In all likelihood, they will do nothing at all. (Figs. 3 and 4, No. 4 and 5) As far as they know, they *are* standing straight. Now ask a group of fourth, fifth or sixth graders to do the same thing. A common response will be a general "freeze" with arms and hands clamped to the sides. (Figs. 3 and 4, No. 2) Often also their shoulders will be shrugged up toward their ears and their chins either pulled forcibly in or stuck out and up. They are trying but they do not know what to do. They think good posture is something very unnatural and difficult.

Desirable posture does require muscle action. But this muscle action, if properly co-ordinated, will be kept at a minimum. It should not be allowed to spread to the arms, shoulders and neck muscles. On the contrary, the arms should hang easily at the sides and the neck and chest muscles should be relaxed enough to permit easy rhythmic breathing. Do not permit children to hold their breath. Suggestions for encouraging this ease and relaxation will be found in Chapters 9 and 14.

Avoid Strain on Joints and Muscles. Postures which are really good are the starting positions for free and easy movements without strain on various muscles and joints. Strain occurs at a joint when movement is attempted beyond the

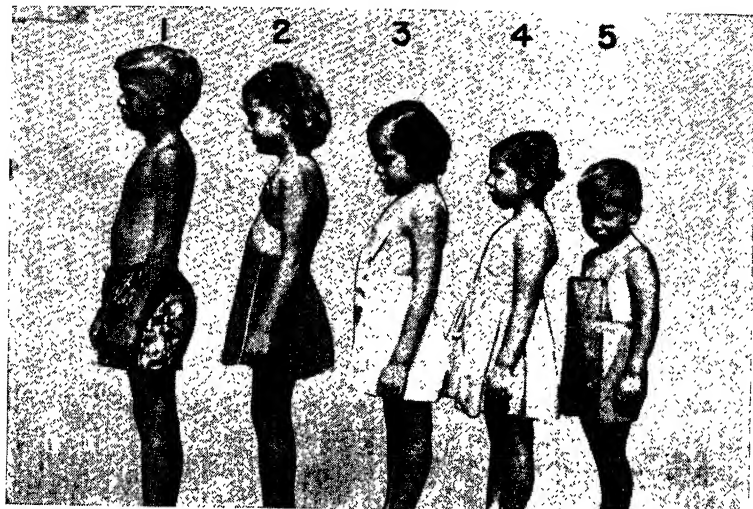


Fig. 3—Natural postures in children three to eight years of age.

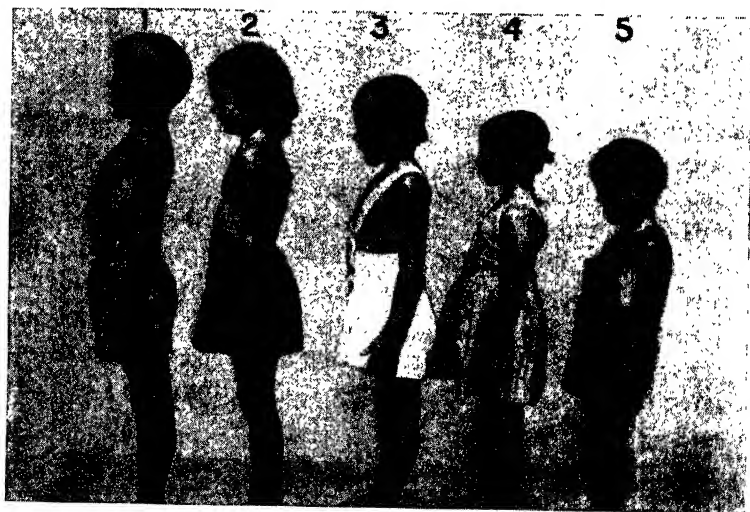


Fig. 4—Poor attempts at improvement.

normal limits of the joint action. In poor postures, the feet, knees and lower and upper back joints and muscles are often strained by the habit of leaning on ligaments instead of relying on muscle strength. An attempt at posture improve-



Fig. 5—Natural postures in fifth grade children.

ment is not good if it includes forcing the knees back stiffly (Fig. 4, No. 3) and arching the back strongly in an effort to get the chest up. (Fig. 4, No. 1)

Promote Better Physiology. Strong musculature, characteristic of most people with habitually good posture, acts as



Fig. 6—Desirable improvement except for No. 4.

a pumping force for the return of blood from the muscles to the heart. This pumping action reduces strain on the heart, improves circulation and thus improves the general physiology of the body. Conversely weak musculature, characteristic of the type of posture with flat chest and sagging abdomen tends to impede circulation and depress other physiological processes of the body. Organic function is facilitated by the postures which show erectness and elevation of the trunk since they are habitual only in individuals with at least moderately good muscle tone.

In summary, many widely differing postures based on differences in body build will all be good or desirable if they avoid undue strain on joints and muscles, if they encourage optimum organic function of the body, and if they show erectness and at the same time a relatively high degree of relaxation and ease. (Figs. 5 and 6)

No attempt has been made to list here all the characteristics of good standing, walking, sitting and other fundamental daily skills. Most of these characteristics are so familiar that they need no repetition. They will be reviewed in some detail in Chapter 9 where activities which develop the skills are also presented.

CHAPTER SEVEN

POSTURE PHOTOGRAPHS¹

No single factor is more effective in motivating pupils toward real effort than the personal posture picture. Most pupils have been told to "stand up straight" as long as they can remember. Most pupils know verbally and visually what good posture is. Few pupils, however, have any real knowledge of their own posture, either good or poor. Pupils who are quite indifferent to "talk" about posture improvement are quickly motivated when they evaluate their own pictures in terms of acceptable standards. (Fig. 26) Frequent comments are "I didn't know I looked like that," and "My mother says I have poor posture. Now I know what she's talking about." Comparison of first pictures with subsequent pictures is also a most gratifying evidence of progress.

One set of portable equipment makes it possible to take posture pictures in all the schools of a small city. By using bromide paper instead of film, the running cost per picture can be kept down to one-half cent. The initial cost for permanent equipment can be kept under six dollars by using materials available in the school or loaned by friends of the school. The necessary equipment may be packed in a box measuring approximately 30" x 15" x 4" and may be carried from school to school. It can be set up for operation in less than ten minutes.

¹ Kelly, Ellen. "Taking Posture Pictures." *Journal of Health and Physical Education*. Vol. 17, No. 8 (Oct. 1946) p. 464. (A revision, reprinted by permission of the editor.)

PORTABLE EQUIPMENT

- 1 Box or folding camera—must be equipped with bulb or time exposure attachment.
- 2 or 4 Photoflood bulbs (No. 2 or larger).
- 2 or 4 Sockets with folding paper or metal reflectors mounted on tripods or equipped with clamps.
- 1 Dull black background cloth, 6' x 3'.
- 1 Small slate for recording names.
- 1 Stick soft white chalk.



Fig. 26—Inexpensive bromide paper negatives.

- 1 Extension cord, 25'.
- 1 Roll Bromide paper (E-1, single weight, dull finish, 250, 500 or 1000 ft.) Order the correct width for the camera being used.
- 6 Cartridges or spools to fit camera being used.
- 12 Discarded rolls of protective paper backing for the film normally used with the camera. (From any film developing store.) Necessary for Method I only.
- 3 Enamel pans or glass jars.
- 1 Carton M-Q developer packets or 1 bottle D-72 developer.
- 1 Bottle Acid hypo (fixer) .
- 1 Red bulb or red cloth to cover lamp shade.

Paper. Bromide paper comes in 250, 500 or 1000 foot rolls, and in various widths to fit different size cameras. The inside measurement of the length of the cartridge with which the camera is equipped is the correct width paper to order. Be sure to include all specifications given above when ordering paper. This identification will obtain a paper which exposes fast, is inexpensive, and on which it is possible to write later with pencil or ink. Eastman Kodak's trade name for this paper is Kodabromide; Ansco's trade name is Convira.

PREPARING ROLLS OF BROMIDE PAPER

Method 1. Use this method where the camera must be loaded and unloaded in the light. Up to sixteen pictures may be taken on one roll depending on the camera used.

In a dark room under red light, cut the paper into several strips as long as the film strip normally used with the camera. Determine this length by measuring the exposure number area of the protective paper covering the film normally supplied for the camera being used. Roll one strip of protective paper on a cartridge starting at the high exposure number

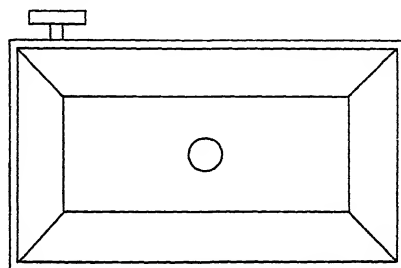
end, lining it with a piece of bromide paper throughout the numbered center exposure area only, and fastening the bromide paper to the protective paper with masking tape at the low numbered end. Be sure that the smooth emulsion side (inside as it comes on the bromide roll) will be next to the camera opening when the roll is placed in the camera. It conserves time if several rolls are prepared at one time.

Method 2. Use this method where the camera can be loaded and unloaded in a dark room or under a heavy blanket. Twenty-five or more pictures may be taken on one roll.

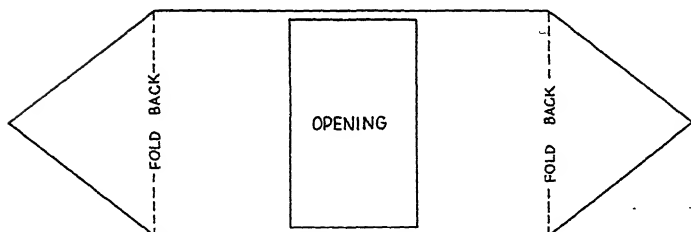
In a dark room under red light, cut the paper into strips which will roll conveniently on the spools or cartridges. (For a 120 camera, five feet of paper is about right, and will accommodate at least twenty pictures.) Draw lines crosswise of the non-emulsion back or outside of the paper to mark off the widths which are exactly those of the opening of the back of the camera. These markings take the place of the numbers found on the back of film, and indicate how far to turn the paper between exposures. Cut points on both ends of the paper. Roll the paper loosely on the spool with the pencil markings on the outside. Wrap the spool in heavy black or other lightproof paper. To save time prepare five or more spools at the same time. Since the camera must be loaded in a dark room, insert one roll of paper in the camera at this time. The red glass covering the hole in the back of the camera does not adequately protect bromide paper from light. Unless the opening has a metal flap, cover the hole with adhesive or masking tape. Lift one corner of the tape only long enough to turn the paper the correct distance for the next picture and replace the tape immediately.

Optional Camera Adjustment. If Method 2 is being used, and if smaller pictures will be satisfactory, three horizontal exposures may be made on the amount of paper usually exposed with each vertical picture. To do this, cut a piece of black construction paper into a mask with a center opening

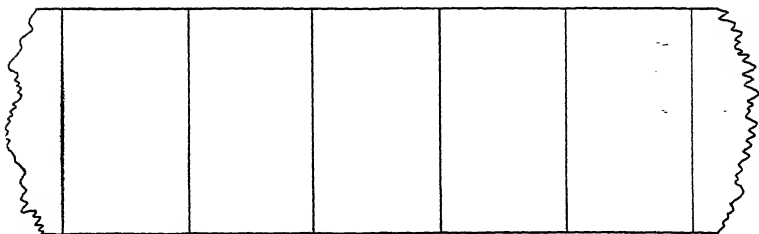
only $\frac{1}{8}$ the *length* of the normal opening at the back of the camera and the full *width* of the opening. (Fig. 27, a and b) Fasten the mask with cellulose tape over the open end of the camera across which the film usually slides. Now, when taking a picture with the camera on its side, only the narrow vertical center strip of bromide paper will be exposed with each picture taken. The bromide paper must, of course, be marked into exposure lengths to match this opening. (Fig. 27 c)



(A) BACK OR OPEN END OF CAMERA



(B) BLACK CARDBOARD MASK WITH CENTER OPENING AND SIDE FLAPS



(C) STRIP OF BROMIDE PAPER WITH DIVISIONS INTO CORRECT WIDTHS DRAWN ON BACK

Fig. 27—Optional camera adjustment.

ARRANGING LIGHTS, CAMERA AND SUBJECT

Any space twelve or more feet long is satisfactory if it can be screened off to provide privacy. At least two and preferably four No. 2 or larger photoflood bulbs and reflectors will be needed. If all the lights are mounted on a single tripod, use arrangement (a) (Fig. 28). If the lights are mounted on two tripods or clamped to chairs, use arrangement (b) (Fig. 28). The distance from subject to camera varies according to the size of the camera and the height of the tallest pupil as reflected in the camera finder. Place the camera as close to the tallest subject as possible to get the largest image which the camera will accommodate. This distance should be measured and should be the same at all times regardless of the height of

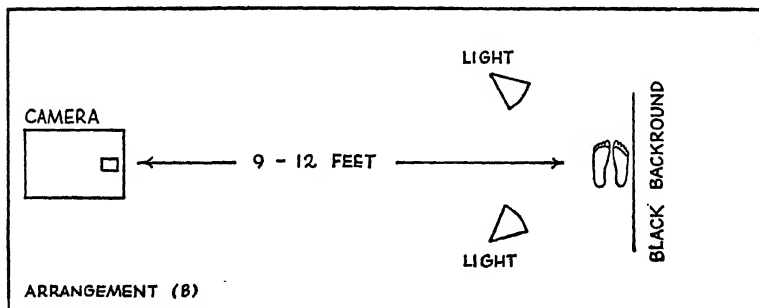
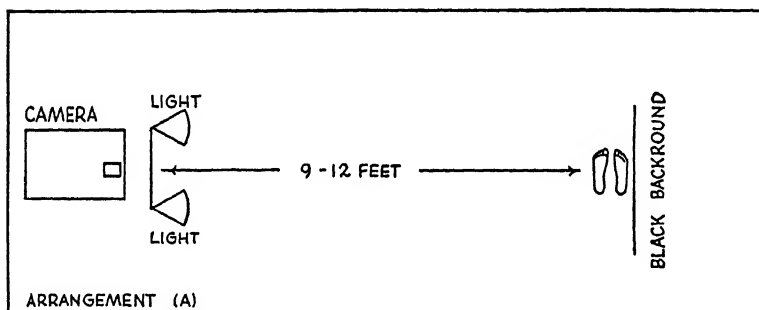


Fig. 28—Location of camera, lights and subject. Arrangement (a) for lighting on a single tripod; arrangement (b) for lighting from two or more directions.

the individual pupils so that pictures taken on various dates will produce images of comparable sizes.

Place the camera on a steady level table or box. Locate the subject in the camera finder. Then, if many pictures are to be taken on the same occasion, place a chalk mark on the floor where each subject should stand, and outline the position of the camera on the table with chalk. This will save time locating each subject in the camera finder.

Background. The wall behind the subject should be black and must have a dull finish. A flannel or other dull black cloth is the most portable solution. However, if all pictures are to be taken in the same room, a dull black painted wooden surface is satisfactory. To identify each picture, use a small slate and write the subject's name backward starting in the upper right hand corner, i.e. **DOE JOHN**. Use a soft white chalk. Date, school and other desirable information may also be included. Place the blackboard on the floor at the subject's feet.

Preparing the Subject. Photographs taken in street clothes or in girls' gymnasium suits are practically worthless. Outlines of chest and back are usually lost even under the regulation boys' sleeveless gymnasium shirt. Satisfactory clothing for the prepubertal girl or boy is close fitting underpants or shorts. The adolescent girl should be permitted to wear a brassiere or halter. If tank suits are used, a string or belt should be tied snugly around the waistline to help in locating the abdomen, chest, and upper and lower back curves.

TAKING THE PICTURE

Use the bulb or time exposure adjustment of the camera. Where lighting follows arrangement (a) in Figure 28 and two No. 2 photoflood bulbs are used a five second exposure may be needed. With more light placed closer to the subject, as in arrangement (b), shorter times exposures will be sufficient. Since photoflood bulbs have a relatively short life, turn

them on only for the few seconds during which the picture is actually being taken. Since these blubs grow dim with use, allow longer exposure times with old bulbs.

Give clear uniform instructions to all subjects. If the pupil's best effort at posture improvement is wanted, ask him to stand as well as he can. Give him time to adjust himself, but do not give him specific coaching suggestions. If the pupil's natural standing posture is desired then the instructions will have to be changed. Ask the pupil to stand comfortably, the way he usually stands, and take particular care to put the pupil at ease. It is difficult to get pupils to stand naturally, especially if they think that they are going to be formally graded in physical education in part according to the grade of their posture picture. Use natural standing posture photographs for instructional purposes only.

DEVELOPING PICTURES

Developing is an easy, quick process. It is even feasible to develop pictures immediately after taking them so that pupils can see them on the same day, even in the same class hour. (This has often been done, and is recommended for junior and senior high school girls when first inaugurating a posture picture project. The girl's curiosity is immediately satisfied, and any apprehension subsides.)

The developing equipment may be purchased at any retail photographic supply store. A dark room can easily be improvised in a closet or lavatory, using a removable board across the wash basin. Cover the customary white light with a red cloth, or use a red bulb on an extension cord. Mix the developer using instructions for bromide paper as printed on the bottle, and place some in the first pan to a depth of one inch. The second pan contains clear water. In the third pan, place acid hypo also to a depth of one inch. (If jars are used, the solutions should be slightly deeper than the width of the paper rolls being used.) *Now turn off any white light.* Under

red light remove the bromide paper from the spool. Immerse the entire length of paper in the developer by gradually folding it accordion fashion into the first pan. (If jars are used, drop the paper, *loosely* rolled, into the developer.) Be sure that the folds of paper are not pressed tightly together but are loose enough to be bathed on both sides with the fluid. Watch one end of the paper under the red light, and when the pictures and lettering are clearly visible, remove it from the developer, stripping excess fluid back into the pan. Wash the paper briefly in the second pan (or jar), again being sure that both sides of the paper are completely bathed. Strip off the excess water and fold the paper loosely into the hypo in the third pan. As soon as the paper is completely under the hypo solution, turn on the white light. Leave the paper in the hypo for at least ten minutes, but not more than thirty minutes, lest the images bleach out. Drain the paper and wash it thoroughly in clear water. When drying the paper, weight it under strips of blotting paper, or between layers of towel in order to keep the paper from curling. Do not place emulsion surfaces of the paper against one another until the paper is thoroughly dried. Cut the pictures into individual sections. When each pupil sees his own pictures, the teacher should plan specific teaching devices to help him evaluate them accurately, and to see clearly the specific ways in which he may make improvement. (See Figures 13 through 23.) It is recommended that all pictures remain in the school building under lock, and safe for further comparisons at later dates.

The cost of taking posture photographs is within the reach of the average school budget. One set of portable equipment brings this service to all the schools of a community. It is an effective method of securing active interest and enthusiasm.

OBJECTIVE METHODS OF GRADING POSTURE PICTURES

Methods independent of teachers' judgments have been devised for grading posture pictures. These methods have un-

doubted value as research techniques. If they could be used in large institutions where posture pictures are routinely made each year during the child's entire school attendance, valuable data would become available for badly needed long term studies of children's posture. Institutions interested in using objective methods of grading posture pictures will want to investigate these methods.^{1, 2, 3, 4}

However, these objective methods have not yet been standardized for use with children during growing years. Furthermore, most of the methods require considerable time for making the measurements necessary in computing the grade and require an appreciable initial outlay for equipment. Therefore, these methods are not recommended for routine use in the average school situation, unless the records are to be used for research.

¹ Kellogg, John H., "Observations on the Relations of Posture to Health and a New Method of Studying Posture and Development," *Bulletin of the Battle Creek Sanatorium and Hospital Clinic*. XXII:1 (September 1927).

² MacEwan, Charlotte G. and Eugene C. Howe, "An Objective Method of Grading Posture," *Research Quarterly*, III, 3:144-159. (October 1932).

³ Cureton, T. K., Jr., J. Stuart Wickens, and H. P. Elder, "Reliability and Objectivity of the Springfield Postural Measurements," *Supplement to the Research Quarterly*, VI, 2:81-92. (May 1935).

⁴ Cureton, T. K., Jr., and J. Stuart Wickens, "The Center of Gravity of the Human Body in the Antero-Posterior Plane and Its Relation to Posture, Physical Fitness and Athletic Ability," *Supplement to the Research Quarterly*, VI, 2:93-105. (May 1935).

CHAPTER EIGHT

THE TEACHER'S PLAN

PRELIMINARY CONSIDERATIONS

Integration of classroom habits, playroom habits, and unsupervised habits is essential if the goal of habitually desirable body mechanics is to be achieved. The posture emphasis then should pervade the entire school day, and should include plans for carry-over to out-of-school living. The classroom teacher is in the best position to give the day-long emphasis required. Of course, where a special physical education teacher is available, he and the classroom teacher should plan the posture emphasis together so that their contacts with the children will reenforce each other. The plan must meet the children at their present level of achievement and carry them forward. No standard levels of achievement in body mechanics skills can be established for each grade, since posture skills are not acquired exclusively or even primarily from the school emphasis, as is more nearly the case with spelling, history and other academic subjects. Nor is posture teaching an accepted and standardized subject in the curriculum. The teacher, therefore, cannot assume any level of achievement at any particular grade. He must appraise the particular group with which he works in the light of its general physical condition, home environment and past school experiences with posture training. For this reason, it may be necessary for a first grade teacher and an eighth grade teacher to teach the same fundamental skills. Each teacher, however, must get these skills across to his pupils through activities adapted to the age and interests of his pupils.

The posture program can be initiated as effectively in the classroom as in the playroom. This is especially true where the classroom teacher takes the responsibility. He trains the pupils to give him close attention and to enter into discussion. Too often this attitude changes to one of recreation or free play as soon as the class enters the playroom or goes outdoors. When pupils have learned more clearly how to use posture activities effectively in the classroom or have learned how to give fruitful attention in gymnasium situations, they will be better able to profit from posture and body mechanics activities presented in connection with the physical education activity program.

A direct posture approach will delight the children in grades 1-3. At these ages, fundamental big muscle activities are interesting without ulterior goals. With older children, depending on their past experiences and attitudes toward posture, it might be wiser to start with brief specific emphases, for perhaps no more than five minutes at a time. The subject might come up in connection with the impression which a child makes on the rest of the class as he stands at the blackboard. Analyze the posture of a child who has made a good impression and then ask the children to "pretend" that they have good and poor postures and see what impressions they make. (Chaps. 16 and 17) As the pupils obtain a better understanding of the significance of posture skills, their interest and their attention span will grow. As this happens, the teacher and the pupils can profitably plan a long range program which will be stimulating.

In grades 4-8, integrate posture and body mechanics skills with physical education activities, such as hiking or marching, physical fitness activities, stunts and tumbling and social dance. This integration will not only encourage carry-over of body mechanics skills but also avoid loss of interest which might result from a long unvaried posture unit. The teacher should be sensitive to the attitude of the class. Change activi-

ties before the children lose interest in them. It will then be possible to get an enthusiastic response to the same activities on another occasion. A short and stimulating experience is much more productive than a long listless one.

The teacher should plan for opportunities to give individual assistance and correction where needed. In order to do this, the pupils must be engaged in self-directed activities which leave the teacher free, and which center the attention of the class as a whole *away* from the child receiving individual help. Suggestions for doing this are given in Chapter 11.

EQUIPMENT

The success of a posture unit hinges on the enthusiasm of the teacher rather than on the financial outlay for equipment. A few items, however, are well worth the low expenditure involved.

Full Length Mirror. There should be at least one full length mirror in each school, located in a conveniently accessible place, preferably the gymnasium or a nearby hallway. In larger schools, one mirror on every floor will increase the opportunities for pupil motivated improvement.

Hanging Apparatus. Use the simple doorway bar (Fig. 29) described in Chapter 15, or the standard high bar or horizontal ladder apparatus for the gymnasium. At least one bar, and preferably two or three, should be available in each gymnasium. It would also be valuable to have a doorway bar in many of the classrooms, especially in schools with meagre playroom facilities.

Visual Aids. Posters and other visual aids are essential for a good teaching program. (See Chapters 7 and 19.) At least one purely factual or instructional type poster suited to elementary ages is a must in each elementary school. One for every room or every two rooms would be far more satisfactory. In addition, several attractive motivational posters should be

available in each school. A traveling library of posters, shifted from room to room within the school, and from school to school within the system, is a desirable supplement.

Balance Boards. Six to twelve inch square boards to balance on the head may be made of plywood or even cut from cardboard cartons. There should be one for every pupil in the largest class.

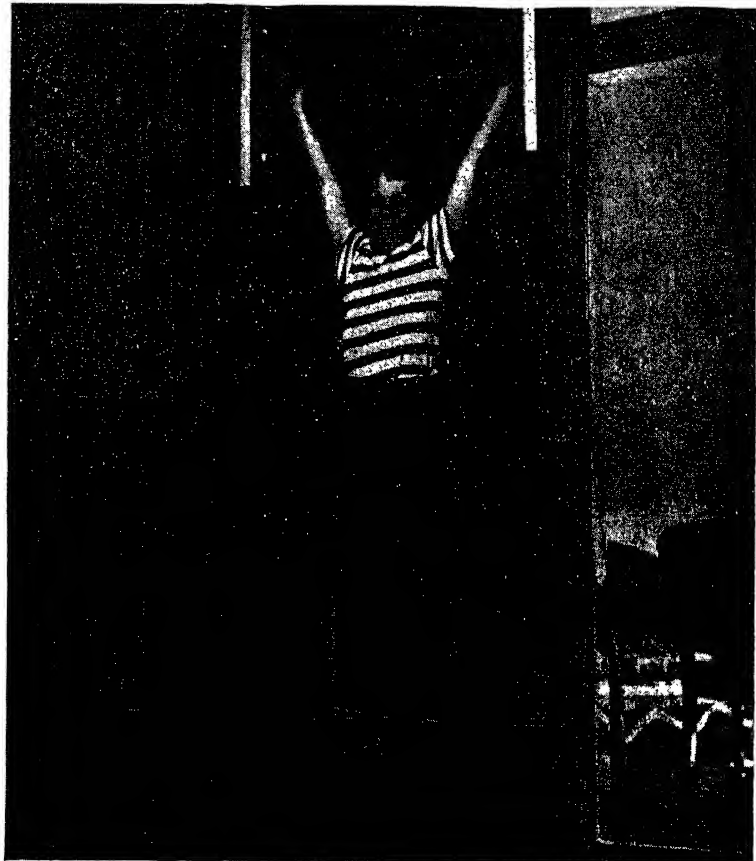


Fig. 29—Home-made hanging bar. If the ends had been square instead of round, the child could use a forward grip with both hands.

Sand Bags. Sand bags may vary in weight from one to five pounds and may be made of canvas filled with fine gravel, which seeps out less than sand. Use these for balancing on the head. There should be at least five in the gymnasium and preferably one for each two children.

Floor Cloths. If the gymnasium or playroom is not clean enough for children to sit and lie down on it, floor cloths should be available. These may be made of scraps of sheets, large worn turkish towels or large pieces of wrapping paper. As a last resort, newspapers may be used.

ORIENTATION THROUGH EVALUATION OF PRESENT PUPIL ABILITIES

"How far have my pupils progressed toward the goal of habitually good body mechanics?" The teacher who can arrive at a critical answer to this question will be in a position to do posture teaching which will bring desirable results with a minimum of time and effort and with a maximum of pupil enthusiasm, for he can then start where his pupils are and lead them forward.

Many of the activities of Chapters 9 through 16 may be adapted to aid both the teacher and pupils in answering this question. Use these activities then as tests. Posture tests, like other tests, should be used to pre-test knowledge, skill and appreciation of individual and group abilities. This is particularly true with the teaching of posture where no standardized achievement levels can be set for each grade or age in the school. (There is no accepted second grade posture level to correspond to a standardized second grade arithmetic level.) Use the tests, also, to post-test the progress made by the pupils during the unit. Post-testing shows the teacher how much progress has been made, what aspects of the unit need greater stress with the class as a whole, and which individuals need additional help. Used in this way, these testing devices have excellent motivational value.

The teacher may profitably evaluate pupil progress toward habitual posture improvement in the following steps:

1. How many of my pupils know good posture in various activities when they see it?
2. How many of my pupils really consider good posture worth working toward?
3. How many of my pupils can demonstrate good posture in various daily activities when they are concentrating on their form?
4. How many of my pupils possess a level of positive health and vitality which encourages good posture?
5. How many of my pupils *habitually* exhibit good postures?

If the answers to all five of these questions are "almost 100%," there is no need of further direct posture teaching with that group. If the school and home environments continue to be happy and healthy, the pupils should not develop poor postures as they mature. If the answer to question 5 is "few," clues to improvement will be found in any of the first four questions to which the answer is also "few." If pupils can describe and point out examples of good and poor postures in various activities, yet themselves show poor posture when they perform these same activities, the teacher should not continue to *tell* them what they ought to do. Instead he must teach them *how to do* physically what they already concede to be correct. Personal skills are developed only through practice, not through talk. These four stages in improvement will be discussed in order, together with references to activities which aid the teacher in evaluating this progress.

1. *How many of my pupils know good posture in various skills when they see it?* Be sure that pupils' ideas about good posture are really good, that is, reasonable and including a high degree of ease and relaxation.

(a) Use simple oral or written tests of knowledge about good posture. (See "Saluting the Flag," Appendix.) These

are unsatisfactory in some cases, however, because the terminology and rather abstract ideas involved are difficult for small children. On the other hand, children often have many pat phrases at the ends of their tongues which they have heard since infancy—"shoulders back," and "sit up straight" and "chest up"—which they can often repeat without really appreciating their significance. For this reason, supplement verbal tests by some other approach.

(b) Devise posture picture evaluation tests. Children are used to looking at pictures and learning from them. They frequently can differentiate good and poor postures in pictures when they might not be able to describe them with words. Many of the posture standards in Chapter 6 may be used for this purpose. Sympathetic criticism of each other's posture also indicates basic understanding.

2. *How many of my pupils really consider good posture worth working toward?* To *appreciate* is much more than to *tell* the textbook listed values of good posture. To appreciate the value of good posture, children must see it at work around them. They must see those in whom they have confidence striving intelligently to practice what they preach. In this connection, the teacher's own posture and body mechanics habits will be very important.

No objective devices for measuring this type of achievement can be offered at present. However, the children should be able to pay at least lip service to the values of good posture. Then the teacher should observe the interest and degree of effort which the children make toward improvement. Effort is a good sign of interest and appreciation.

3. *How many of my pupils can demonstrate good posture in various daily activities when they are concentrating on their form?* Finding the answer to this question requires a posture inspection of each child. Many children actually do not know how to stand well, even momentarily. They may try vaguely to get their shoulders back or their chests up, but

they show no skill at co-ordinating all their body segments into good and easily maintained alignment and balance.

Where posture data are not available on each child's school medical record, the non-specialist in physical education can learn to appraise children's postures accurately enough to help materially in planning teaching units. The teacher should use one or more of the following procedures, which are described more fully elsewhere in the text.

(a) *Modified Screening Examination.* (p. 39) This device includes an opportunity to observe each pupil's habits of standing (both consciously corrected and natural), his use of feet and legs in walking, and the symmetry of his trunk. If only one procedure can be used for evaluation, a modified screening examination is the one recommended. It is suited to all ages.

(b) *Modified Bancroft Triple Posture Test.* (p. 51) This group test of general posture in a variety of daily activities is well suited to grades 1-6 and is possible with grades 7-12.

(c) *Iowa Posture Test.* (p. 49) This group or squad test of posture in various activities is suited to grades 5-12 and to adult groups, especially women.

(d) *Comparison with Fixed Standards.* (p. 52) Compare a pupil's posture with the sample posture illustrations which have already been graded. Use this method in any age group for which standards are available.

(e) *Photographs of Pupils' Postures.* (p. 61) These may be rated purely subjectively by the teacher, or may be compared with the fixed standards referred to under (d) above. Photographs are useful at all ages.

(f) *Objective Methods of Grading Posture Photographs.* (p. 69) These methods of evaluating posture are independent of the teacher's judgment. Fairly satisfactory standards are at present available only for senior high school and adult ages.

Teachers should not begrudge the time devoted to this individual posture evaluation. The time is well spent, es-

pecially if the teacher includes some individual coaching assistance for each pupil. As the teacher finds children who demonstrate common faults, he can offer constructive suggestions, including manual correction. (p. 88) If the teacher discovers pupils who show faults which seem quite atypical, or which the child cannot improve even momentarily under the manual assistance of the teacher, he should refer these pupils for adequate orthopedic examinations.

4. *How many of my pupils have achieved a level of positive health and vitality which encourages good posture?* A chronically fatigued, malnourished or discouraged child will exhibit postures which reflect this low vitality, even though the child is able to demonstrate upon request more vigorous body mechanics skills. Such a child cannot be nagged into better habits. Nagging emphasizes his deficiency and only discourages the child further, making him dislike every mention of the word posture. How to improve total health and vitality lies in the field of health education and health evaluation, which is, of course, beyond the scope of this particular discussion. No specific suggestions will be made here. However, every opportunity for general health improvement should be explored if the goal of habitually good posture is to be achieved. This will require close co-operation between school and home.

5. *How many of my pupils demonstrate habitually good postures in daily activities?* Good posture on the habitual level is a tool serving the individual toward better living. Until pupils have reached this level, further teaching and pupil-directed effort are needed. Here, attitude is of the utmost importance. The children must be induced to take the responsibility for improvement upon themselves. Toward this end, the teacher should plan from the beginning of the posture emphasis to stress pupil leadership and pupil motivated activities. Motivation activities are discussed in Chapters 16 and 17.

(a) Posture judging situations can easily be devised for the classroom. For example, the children might work on the problem of stage presence. Ask one row of children to walk to the front of the room, sit down in chairs before the whole class, rise again and walk back to their seats. This gives the other children an opportunity to evaluate standing postures, sitting postures, walking form, and the movements of sitting down and rising. Concentrate first upon teaching each one of these different activities individually, helping the children set standards of accomplishment appropriate to the particular age level. Children should learn to give and take criticism in a constructive way, and the teacher should be sure that the children are prepared to be constructive in their comments.

(b) Informal teacher observation and comment are effective. Care must be taken that this procedure does not develop into unpleasant nagging.

(c) Use *Posture Checker* (p. 148)

(d) Use *Password Club* (p. 148)

SUMMARY OF FINDINGS.

With answers to the preceding five questions, the teacher is in a position to plan an effective teaching unit.

1. Only if a large proportion of the children do not know the basic principles of good posture as seen in others should the unit include much discussion of what good posture is.

2. Where a large proportion of the children do not know how to stand well even momentarily, the teacher will want to put considerable emphasis on devices which help to teach the fundamental co-ordinations. Should this be the case he will need to give frequent individual assistance to certain children for whom improvement is particularly difficult. (Chapter 9)

3. If many of the children know how to stand well, but habitually stand poorly, they do not need to be told what to do. They need frequent motivation to do the thing which they know to be correct. (Chapters 16 and 17)

4. Which children can and usually do stand well? Train these children to be squad assistants.

5. Which children should be referred for a more detailed orthopedic examination?

In addition to helping the teacher find the proper starting point for his posture unit, a report on the findings of these posture tests can raise the level of interest of pupils, other teachers, principal or superintendent and lead to administrative provision for an adequate posture program. Such a report will be more impressive if it can be accompanied by photographic posture records of typical defects seen. (Chapter 7)

CLASSIFICATION OF ACTIVITIES

Part III of this text is devoted to descriptions of activities which have potential body mechanics value. Whether this value is received will depend upon how the activities are used, whether as means toward the goal of habitually improved posture habits, or as mere entertainment or exercise ends. The activities have been classified in chapters according to their main contribution. They have also been evaluated in suffixed tabulations according to their (1) floor space requirements, (2) grade suitability, (3) size of group accommodated at one time, and (4) adaptability to the two sexes.

Floor Space Requirements. Many elementary teachers have no indoor play areas and little equipment with which to work. If they wish to present a posture unit it will probably be taught in connection with health education through activities which are suited to the typical classroom with stationary seats and desks. Two chapters are devoted to classroom activities: one, primarily physical activities; the other, more of the academic project type. Other chapters however include certain activities which may be adapted to classroom use. The following abbreviations have been used:

C Classroom with fixed seats and desks

PR Playroom or gymnasium

Grade Suitability. In many cases an activity may be used by a wide grade range if it is intelligently modified by the teacher. In other cases the activity does not lend itself to modification beyond a certain grade range. Grade numbers 1-12 have been used as abbreviations to cover the elementary, junior and senior high school grades.

Size of Group. In some activities every child in the class may be participating at the same time. Other activities are only feasible in the average school with space limitations if one member of each of several squads is active while others observe and wait their turns. Still other activities demand the undivided attention of the teacher on one pupil while the remainder of the class is otherwise occupied. The following abbreviations have been used:

- Cl Each member of the class performing simultaneously
- Sq One member of each squad, or one entire squad only, active
- I One individual at a time

Adaptation to Sex. Many activities can be used effectively in mixed groups up to a certain age, but beyond that age are better when used with boys and girls in separate squads or classes. If the activity raises the question of modesty, the girls may be protected by having different squads of boys and girls, or by having boys and girls in different rows facing away from each other. Separate boys and girls physical education classes are generally recommended after the fourth grade. The following abbreviations have been used:

- BG For boys and girls in mixed groups
- B G For boys and girls in segregated groups
- B For boys only
- G For girls only

In Part III the abbreviations for floor space requirements, grade suitability, size of group, and adaptation to sex have been combined and suffixed to various activities, as follows:

<i>Symbol</i>	<i>Meaning</i>
(C, 1-6, Cl, BG)	The activity is most effectively done in the classroom, with children in grades 1-6. The entire class may be participating at the same time with boys and girls in the same group.
(C PR, 1-6, Sq I, B G)	The activity may be done in either the classroom or the playroom, and, is most effective with grades 1-6. Only one squad or one individual can be participating at one time, and girls and boys should be organized in separate groups.
(PR, 1-4, Cl, BG) (5-9, B G)	The activity is best suited to the playroom. In grades 1-4 the entire class of boys and girls may work together, while in grades 5-9 it is wiser to segregate the boys from the girls.

Name of the Activity. Always use names which are stimulating to the children. They will be delighted to give their own names to activities after they have tried them and have a definite feeling about them. Children instinctively approach a new "stunt" or "game" with enthusiasm. The same activity

if called a "corrective exercise" might be received as a chore. For grades 1-2, as much as possible call activities games. For grades 3-6, activities may be either games or stunts. For the junior high school years, some of the activities when presented to the entire class come under the heading of stunts, others of exercises. When presented to one individual in a special posture class under the supervision of a person trained in the field of body mechanics, the activity may properly be called a posture exercise or a corrective exercise.

PART III

Posture and Body Mechanics Activities

CHAPTER NINE

TEACHING FUNDAMENTAL SKILLS

Standards of Performance. All children, because of differences in body build, do not and should not be expected to stand, walk or run with identical postures. However, reasonable standards of performance, which allow for these individual differences, should be taught in many basic activities. Daily skills must be as erect and vigorous as is compatible with ease and relaxation. At all times avoid the extreme rigidity and artificiality of the so-called military posture. If the teacher does not call attention to this stiffness and teach to overcome it, children will think that stiffness is a part of being correct. (Figs. 3, 4, 5, 6) Stiff postures certainly are not desirable. Children will rebel if expected to practice them. This rebellion has often hampered effective posture teaching in the past. Often the teacher fails to teach good form, allows the children to be satisfied with careless performances, and thus loses all value of the activity as a device to alter poor habitual posture skills.

Individual Assistance. It is just as important for children to receive correction of their motor skills as of their academic skills. Otherwise faulty performances go unnoticed and become habitual. Yet in the gymnasium the teacher finds it difficult to check on the skill of each pupil and to give the individual assistance which he knows is needed. (Fig. 30) Class management devices which facilitate teaching include:

1. Teacher directed gymnastic activities or stunts with the entire class in open formation. While the children continue with the activity which the teacher has initiated, the teacher

goes up and down the lines helping the children who are not doing well. This is easier with stunts (Chap. 11) and with the activities in this chapter than with formal gymnastics.

2. Pupil directed exercises or stunts with the entire class in open formation. The teacher is then free to give the indi-

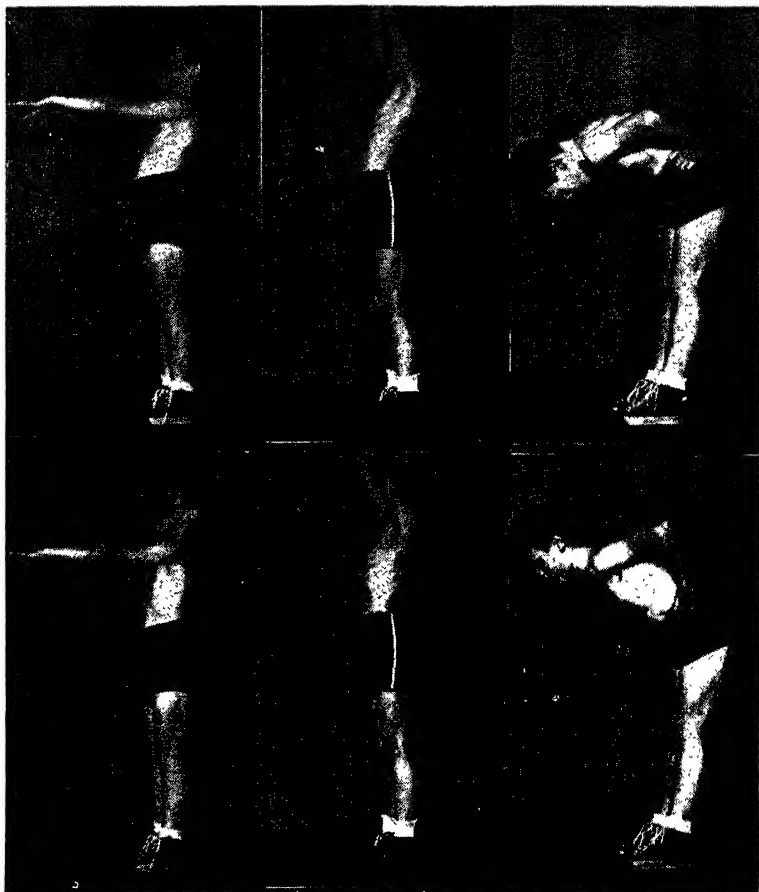


Fig. 30—Three common gymnastic positions. Above—poorly done with little benefit; below—making an attempt to control postural alignment.

vidual assistance required while the pupil leader maintains the rhythm of the exercise or other supervision of the class.

3. Activities organized on a squad basis. With pupil directed activities the teacher may take one whole row or squad of children out of formation to the back of the room for individual coaching, using many of the activities in this chapter.

4. Pupil umpired games in which children are "put out" or spend considerable time waiting their turn. The teacher checks the pupils not participating.

5. Pupil leaders giving assistance. They must be well informed on good standards of performance, and the class trained to accept pupil coaching constructively.

A. Teaching Good Standing

GENERAL CRITERIA (Figs. 5, 6)

1. The child should stand tall, pushing up with the crown of the head, not the forehead. The chin will then be level, the chest high, the abdomen in, and the spine straight.

2. The arms should hang relaxed with the shoulder blades pulled only slightly backward toward each other, not strained as far back as possible. If the arms are properly relaxed, the hands will fall more toward the front of the body than directly at the sides, and the elbows will be slightly bent.

3. The body weight should be distributed evenly between the ball and the heel, and carried slightly more on the outside than on the inside of the feet.

ACTIVITIES

1. *Manual Correction.* (Fig. 31) Ask (C PR, 1-12, I, B G) the child to stand as tall as he can. At the same time push various segments of the child's trunk into more desirable alignment. (1) If his abdomen is prominent and his shoulders and chest swayed backward, place one hand on his abdomen and the other on his shoulder blades and push gently

with both hands until his trunk is better aligned. (2) If his hips are too far out in back and his lower back too hollow, place one hand on his abdomen and the other on his hips, pushing down on his hips and up and in on his abdomen. Be sure that the child does not bend his knees. (3) If his head is too far forward, place one hand on his abdomen and slide the other arm up the child's back so that the palm is behind his



Fig. 31—Manual correction. Compare this first attempt at correction with the child's natural standing and her own best effort to improve as shown in Figures 5 and 6, No. 4.

head. Ask the child to move his head backward until it touches the palm of the hand, without tipping his chin upward.

2. *Double Pole Test*.¹ Use two (C PR, 1-12, Sq I, B G) window poles, yardsticks or gymnasium wands for this test. The teacher or another pupil holds one pole against a pupil's spine and hips so that the upper end is slightly above the level of his neck. Place the other



¹ Department of Physical Education for Women, University of Wisconsin, Madison, Wisconsin. Mimeographed pamphlet.

pole against the pupil's chest and abdomen with the upper end below the level of his chin. In good posture the poles will be very nearly vertical and his head will be drawn back close to the rear pole. In poor posture both poles usually will be slanting forward at the bottom, with his head and chin jutting forward over the top of the front pole. The pupil being tested may stand so that he can see himself and the poles in a mirror.

3. *Line Test for General Posture.*¹ Hang a string with a weight on it in a doorway or from some projection in the room, so that the pupil may stand on one side of the string and the judge on the other side. The child should place his feet so that the string falls just in front of his ankle joint. The string should then pass by the outer side of his knee cap, through his hip joint, the middle of his trunk, the tip of his shoulder joint and the tip of his ear. This may be used as a posture test, with the child standing either naturally, or as well as he can. Stress ease and relative relaxation as well as alignment. The children may work in pairs, judging each other.

4. *Line Test for Trunk Symmetry.*² Using the plumb line as described in the preceding activity, the child stands with his back to the line, with his feet about two inches apart on either side of the line, and far enough forward so that he does not touch the line. The line should then fall through the center of his head and spine, pass evenly between his hips, knees and heels. The children may work in partners. If a mirror is available, hang the string on the mirror and have the child stand facing it to notice his own symmetry.

¹ Bancroft, Jessie H. *The Posture of School Children*. The Macmillan Company, New York, 1914.

² *Ibid.*, p. 22.

5. *Mirror Correction.* (Frontis- (C PR, 1-4, Sq I, BG)
piece) The child stands with his (5-12 B G)
side to the mirror noting his habit-
ual posture, then correcting it if
necessary. He may feel to see if his waistline is in good posi-
tion. *Line Test* (p. 89), *Experiment with Body Balance* (p.
90), *Uncurling* (p. 121) and other activities combine well
with use of the mirror. If no mirror is available, the glass
front of a book case, or a glass door opening onto a dark hall
will give a fairly good reflection.

6. *Wall Correction.* The child (C PR, 3-12, Sq Cl, BG)
stands with his back against the
wall, his heels, hips and head
touching. He stretches tall, keep-
ing his waistline in but not quite touching the wall, his
shoulders back but his arms relaxed, and his chin horizontal.
Children may work in partners, with one child checking the
other. (See poem, *Against the Door*, p. 156)

7. *Experiment with Body Balance.* (C PR, 1-12, Cl, BG)
The child assumes a good alignment.
He rocks forward as far as possible
with his weight on his toes (incor-
rect); then he rocks as far back as
possible with his weight on his heels
(also incorrect). Now he centers his
weight over the middle of the length
of his foot, keeping the weight also to the outer border of each
foot. This activity combines well with *Wall Correction* above.



8. *Measuring Stretch.* The child (C PR, 1-6, Sq I, BG)
stands *naturally* with his back to
the wall while someone measures
his height. He then stands as tall as
he can while his height is measured again, and the amount of
his stretch noted. When standing tall his lower back should
not be arched, nor should his chin be stuck out or pulled in.

(Make both measurements by placing a right angle, such as a small box, on top of the child's head.)

B. *Teaching the Correct Use of the Feet*

Use activities to help children incorporate the following points of good use of the feet into their habitual carriage.

1. The feet should toe straight ahead or only very slightly outward. (Not more than a fifteen degree angle between the feet) .

2. The body weight should be carried slightly more on the outer borders than on the inner borders of the feet. (Figs. 10, 11)

3. With each step there should be a smooth transfer of weight from the heel along the outer border of the foot to all five toes, followed by a vigorous push-off.

4. The footprints of the two feet should fall in two parallel lines, slightly separated from each other, not in one overlapping path.

5. The legs swing straight forward and backward from the hips, not in a slightly circular movement around the supporting leg.

ACTIVITIES

1. *Straight Feet.* (Fig. 10) The (C PR, 1-12, Cl I, BG) child stands with his feet in their habitual position and just barely touching each other. If his feet and legs are not in good alignment, he should roll his ankles slightly apart, thus raising the arch and improving the alignment at the ankles. He holds this position and then relaxes. Have him repeat this activity, adding a shift of body weight to first one and then the other foot.

2. *Three Count Walking.* The (C PR, 1-12, Cl I, BG) child (1) places his foot on the floor heel first, (2) rolls the body weight to the outside of the foot,

and then (3) transfers his body weight forward onto the foot, watching to keep the arch up and the feet well aligned. Have him repeat this activity with the other foot. Later on the child should perform this action smoothly and without watching his feet.

3. *Straight Line Walking.* The (C PR, 1-12, Cl I, BG) child walks with the inner edge of one heel and toe touching a crack between two floor boards, and the inner edge of his other foot touching an adjacent crack about two inches away. Be sure that he carries his body weight to the outside of each foot.

Activities which strengthen the arches of the feet are presented in a section on foot care and selection of shoes. (Chapter 16)

C. Teaching Good Walking

The factors stressed under good standing and good use of the feet should be carried over into walking habits. In addition, good walking includes buoyancy of the entire body, and easy relaxation of the arms.

ACTIVITIES

1. *Marching.* Emphasize good individual form rather than keeping in step. The children should use a rather quick rhythm and stress elevation of the whole body. Do not permit the dull heavy lock-step tread which so often characterizes group marching. Marching to music encourages buoyancy and ease. Simple formations such as weaving up and down between rows of seats, coming down the center of the room by two's and four's, and weaving patterns on the floor are interesting. Grand march formations offer variety.

2. *Children Judging Walking.* Have (C PR, 3-6, Cl, BG)
the children, one row at a time, walk (7-12, B G)
across the front of the room. The remaining pupils select all really good postures, rather than pick only the one best. Encourage the children to tell why they considered the walking good or poor.

3. *Walking with an Object on the Head.* Have each child walk (C PR, 3-6, Cl Sq, BG)
(7-12 G)
with an object balanced on his head. The children should realize that they can walk badly without the object falling, and that they should concentrate on alignment and relaxation of shoulders and arms while they continuously push the object up.

4. *Mirror Walking.* Have the (C PR, 3-6, Sq I, BG)
children walk sideward past the (7-12, G)
mirror, or forward toward the mirror. The children check on their own alignment as they walk, and on their foot and leg action.

D. Teaching Good Sitting

Well designed furniture makes erect yet relaxed sitting possible. Poorly designed furniture is frequently to blame for children's poor sitting habits. The value of sitting lies in being able to relax more than when standing. Sitting postures are good only if they permit a high degree of relaxation and at the same time maintain fairly good alignment.

SITTING AT A TABLE OR DESK FOR WORK (Fig. 32)

1. The trunk should be held erect *by the back of the chair* when the arms are resting comfortably on the desk.

2. The chair must be so shaped that when the hips are pushed back and the trunk erect, the chair supports the back

firmly at the waistline. This permits relaxed sitting without slumping.

3. The seat of the chair should be no deeper than the length of the upper leg, and should be slightly higher at the front edge. Then the legs can bend comfortably at the knees, and the body can relax without slumping forward.

4. The table should be of a height which requires neither upward hunching nor downward drooping of the upper body to get the forearm on the table.



Fig. 32—School seating. Left—too small a desk surface and a seat poorly designed and not adjustable; right—a well designed and well adjusted seat and desk.

5. The chair should be pulled close enough under the table so that the surface of the table can be reached easily without leaning away from the supporting back of the chair.

If the furniture at hand does not meet these conditions the person has two choices: to sit erect but not relaxed, or to relax and slump into positions which result in back strain and poor circulation. Faulty chairs can frequently be made more comfortable by putting a pillow or other object between the waistline and the chair back. School furniture should be adjusted to the children at least twice a year. If the school

furniture is faulty and cannot be corrected make provision for children to get out of their seats as often as possible. Permit them to move quite freely about the room for the necessary relief. Do not nag these children for sitting poorly. It is not their fault.

SITTING FOR REST

1. The chair seat should slant well upward in front and the chair back should slant slightly backward. Then gravity will hold the body in the chair and a person can really relax. Home chairs can frequently be made more comfortable by lowering the two back legs an inch. (Try the effect first by propping the two front legs up on books.)

2. The chair back should support the trunk from the hips up the small of the back to the shoulders and head. Only then can erectness of the trunk be maintained while the trunk muscles are relaxed.

3. Too deep-seated overstuffed furniture can frequently be made more comfortable and back strain reduced by placing a rather large pillow behind the small of the back.

4. Raising the feet to a level with the hips is restful and an aid to circulation of the legs. Support the legs under the knees as well as at the heels, in order to avoid uncomfortable strain on the knees.

ACTIVITIES

1. *Good Form Sitting at School Desks.* (C, 1-6, Cl, BG)
Demonstrate and work toward reasonable sitting postures for the children in light of the furniture at hand. Adjust the school furniture to growing children twice a year. Where the school furniture does not support the small of the back, have the children occasionally sit for brief periods with their arms folded behind their waistlines. This will improve trunk alignment and rest their back muscles.

2. *Good Form Getting In and Out of Seats.* (C, 3-6, Cl, BG)
(a) *Using School Seats:* Have the children use their hands on their desks for well timed assistance, place one foot in the aisle and one under the desk, and use smooth continuous movements rather than jerky ones. (b) *Using Home Type Chairs:* Have the children keep their feet close to their chairs, and if possible one foot under them, and keep their chests high. They should lower their bodies into their chairs in a controlled fashion, rather than aiming their hips and dropping into their chairs, and rise with their chests leading and with a minimum of forward lean.

3. *Good Form for When Sitting at a Work Table.* (C, 3-12, Cl, BG)
Have the chair close enough to the table so that the child's forearms can rest on the table while the back of the chair supports the small of his back. Discuss ways to make adult size home furniture fit children: by placing a stool or box under their feet, or by putting a pillow behind their waistline.

4. *Advantages of Good Sitting.* The discussion should include: better chest expansion and breathing, no crowding of abdominal organs, avoiding back strain and eye strain, having better circulation, and looking more wide awake.

5. *Motivation toward Better Sitting in the Classroom.* (C, 3-6, Cl, BG)
Games, songs, jingles and jokes are more effective than unpleasant nagging. See *Posture Checker* (p. 148), *Password Club* (p. 148) and p. 150 ff.

E. *Teaching Good Running, Hopping, Skipping*

In running the body weight should be transferred smoothly onto the toes of each foot first, though in slow running the

heels may also sink to the ground. The running gait should be light on the feet, the trunk should be elevated with the chest up, the whole body should lean slightly forward, and the arms should swing forward and backward in a pumping action with the elbows bent more and more as the speed of the run increases. Throughout the body there should be a high degree of ease and relative relaxation of both arms and legs.

ACTIVITIES

1. *Running in Place*. In this activity, (PR, 1-4, Cl, BG)
be sure the children concentrate on lightness of step. Have one row of children run while the others listen for the lightest group.

2. *Running Around the Room*. Teach (PR, 1-9, Cl, BG)
the children to concentrate on good form: ease, relaxation, lightness and endurance rather than speed.

3. *Running to Music*. Be sure that the (PR, 1-9, Cl, BG)
tempo of the music is only slightly faster than for walking. Music encourages ease and relaxation, even when the children do not keep in with the beat of the music too well.

4. *Skipping and Hopping*. Alternate (PR, 1-6, Cl, BG)
these activities with walking to the same music. Stress lightness, elevation and buoyancy more than keeping with the Music. Various patterns based on the 4, 8, 16, 32 count phrasings of most music make good elementary dances. After trying some of the teacher's patterns the children will readily create their own group or individual patterns. *Example 1*: The children move around in a circle, or up and down the schoolroom aisles using 8 walking steps, 8 skipping steps, 4 hopping on the right foot, 4 hopping on the left foot, and one big jump

held for four counts. Repeat. *Example 2:* The children, facing right around a circle, take 4 hops on the right foot away from the circle, 4 walking steps ahead around the circle, then 4 hops on the left foot back toward the center, and 4 walking steps forward, then 8 skipping steps forward, and 4 walking steps in a circle in place and one stomp held for 4 counts.

F. Teaching Everyday Skills

Give children opportunities to practice daily skills in situations where they may obtain comment and suggestions for improvement. Include jumping and landing, stooping, and lifting as well as the basic games skills of throwing, catching, batting and kicking. If the teacher and the children together analyze the performance of some particularly skillful member of the class they will discover the factors involved in good form. Then the teacher can work out progressions through which to teach this desired form. A sample progression for jumping will be found in Chapter 15. (p. 140)

ACTIVITIES

1. *Balance Board, Bean Bag or Book on Head.* (C PR, 3-12, Cl, BG)
Be sure that each child pushes the object on his head as high as possible, while remaining quite relaxed, especially in the arms. The children may (a) walk twenty feet, (b) walk ten feet, sit down, rise and walk back, (c) pick up a piece of paper, (d) clasp their thumbs behind their backs and squat touching their fingertips to the floor, (e) walk up and down stairs, (f) do various arm and leg movements.

2. *Simon Says.* Play the game as usual selecting most of the activities from the normal daily activities of the children, or from those which give the children an opportunity to practice good alignment, as suggested above.

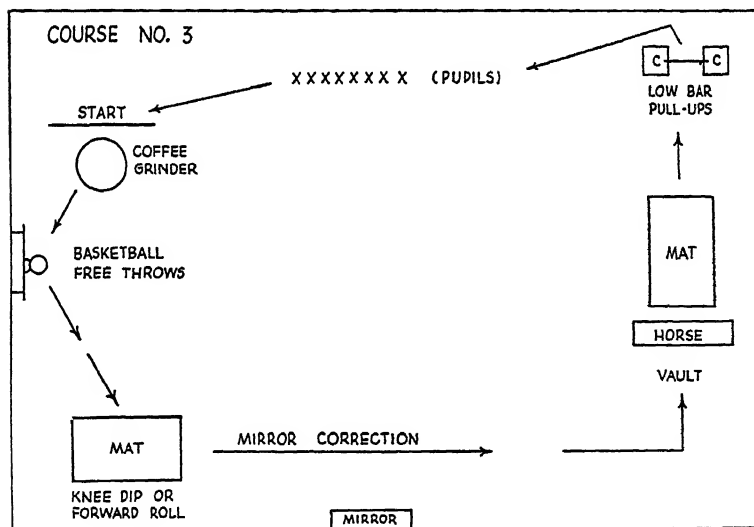
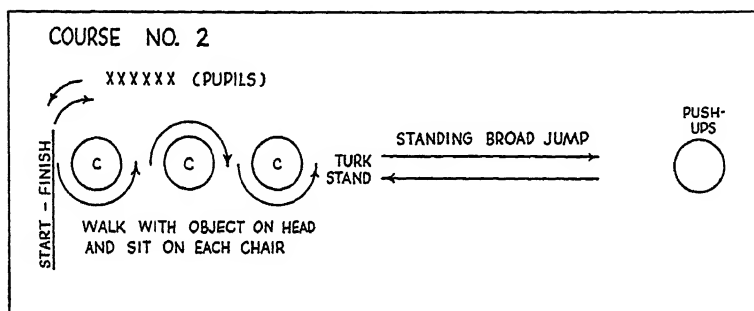
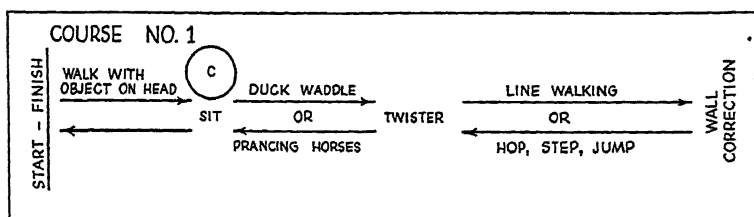


Fig. 33—Posture obstacle courses for classroom and play-room.

3. *Did You Ever See a Lassie?* See (C PR, 1-4, Cl, BG)
Simon Says above.

4. *Modified Bancroft Triple Pos- (C PR, 1-9, Sq, BG)*
ture Test. (p. 51)

5. *Posture Style Course.* This activ- (C PR, 5-12, Cl, G)
ity is primarily for girls. Combine ac-
tivities related to graceful handling of
the body. Stress ease, poise and nat-
uralness in all activities, avoiding the affectations and sophis-
tifications sometimes seen in professional modeling. The ac-
tivities may include (a) those done while balancing an object
on the head (suggested above), (b) sitting down and rising
(p. 93), (c) turning, as in modeling a dress, (d) climbing
stairs, (e) lifting a heavy box, (f) running, skipping and
other simple dance steps.

6. *Obstacle Course.* Items se- (C PR, 5-12, Cl Sq, BG)
lected for the course. will vary
with the equipment and space
available. Stunts and apparatus
activities given in Chapters Eleven and Fifteen are effective.
Encourage the pupils to make up activities and to organize
familiar ones into unified sequences. Three sample courses
are offered. (Fig. 33)

No. 1 requires no equipment, and may be done in the
classroom.

No. 2 is suited to the playroom and requires only a chair
and a ball.

No. 3 requires two gymnasium mats, a ball, and a vaulting
box or horse. Several children may be active in this course
at the same time, if they are trained not to collide, interfere
with each other, or pass the performer ahead.

CHAPTER TEN

STUNTS AND GAMES FOR YOUNGER CHILDREN

The following activities present opportunities through which to strengthen the posture muscles of the trunk and to teach good alignment. These values will accrue only where the teacher stresses good form.

INDIVIDUAL AND PARTNER STUNTS

1. *Airplanes*. The children sit or (C PR, 1-3, Cl, BG) stand with their arms out shoulder level with palms up, thus making the airplane's wings. They keep their bodies erect and heads up. They bend from side to side imitating airplanes banking around curves. They may also travel around the room.

2. *Butterfly*. The children sit or (C PR, 1-3, Cl, BG) stand raising their arms sideward up to touch overhead and back down to their sides, like folding butterfly wings. It is hard to keep heads and chest up when the arms are overhead. Add flying around the room.

3. *Duck Waddle*. The children (C PR, 1-3, Cl, BG) squat on their heels with their hands at their shoulders. They must keep their backs very straight and their chests up while they flap their elbows like duck's wings. Later add walking forward in this squat position. Do not hold the squat more than five seconds at a time, since it involves a strain at the knees.

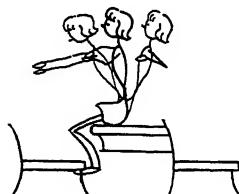
4. *Prancing Horses*. The children (C PR, 1-3, Cl, BG) walk and later run in a circle pulling their knees very high up in front, at the same time keeping their chests up and using a very light step. Contrast this activity with the tired horse, who sags along dragging his feet. This is good abdominal exercise.

5. *Scissors*.¹ The children sit on (PR, 1-3, Cl, BG) the floor with their backs against a wall. They raise first one and then the other leg from the hips, keeping their knees straight and their chests up.

"Here are great big scissors, they go snip, snip, snip,
Here are great big scissors, they go clip, clip, clip."

6. *Tight-rope Walker*. The children (C, 1-3, Cl, BG) walk on tiptoe with their toes turned slightly in following one board on the floor, backs straight, chests up and heads erect, only glancing down with the eyes. Where possible this activity should be performed in stocking feet or barefoot.

7. *Rowboat*. In the classroom the (C PR, 1-6, Cl, BG) children sit on top of their desks with their feet hooked under their own seats, facing the back of the room, or sit in their seats with their feet across the aisle under the opposite seat. In the playroom they sit in rows one behind the other with their toes under the hips of the person in front. All lean far forward keeping their chests up and far backward also keeping their chests up. They thus form a crew.



¹ *Good Posture in the Little Child*. Pamphlet No. 219, Children's Bureau, U.S. Department of Labor, p. 22.

8. *Seal*.¹ The children lie on their (PR, 1-3, Cl, BG) faces, raise their heads, arms and shoulders but keep their hands close to their sides. They wiggle forward in a seal-like motion.

9. *Bicycle Rider*. The children lie on (PR, 1-6, Cl, B G) their backs with their legs overhead, and make large pedalling circles. This is excellent abdominal exercise. Where there is a question of modesty place the boys and girls in separate rows facing in opposite directions.

10. *Measuring Worm*. The chil- (C PR, 1-3, Sq, BG) dren squat on the floor on their hands and feet, then walk forward with their hands as far as possible, then walk forward with their feet bringing their feet up to their hands. Later encourage the children to keep their knees straight.

11. *Rabbit Hop*.² The children (PR, 1-6, Cl Sq, B G) are on all fours. They reach forward with both hands and, with a jump, bring both feet up close to their hands. This may be done as a relay, but emphasis should be on form as well as speed. Try it to music. The activity affords excellent abdominal and back exercise.

12. *Mule Kick*.³ The children are (PR, 1-6, Cl Sq, B G) on all fours. They lean forward supporting their weight on their hands and kick both feet up in the air. Place boys and girls in lines facing each other and kicking away from each other.

¹ Op. cit., p. 22.

² Op. cit., p. 22.

³ Op. cit., p. 22.

13. *See-Saw*. Two children sit facing (PR, 1-3, Cl, BG) each other with their legs overlapping so that their feet are under each other's knees. They hold hands and one leans back pulling the other forward. In this alternating movement, both children try to keep from being pulled into a slump. They may recite in rhythm:

"See-saw, Margery Daw, Jack shall have a new master,
He shall have but a penny a day, because he can't work
any faster."

A variation for older children consists in (PR, 4-9, Cl, B G) sitting with knees bent up and feet overlapping. As one lies back he lifts the other into a half-standing position and lets him *easily* back on the floor as he himself is raised up. Caution the children not to let each other fall, or, better still, do the see-saw on mats.

14. *Elevator*.¹ The children stand with (C, 1-3, Cl, BG) hands on hips. They bend their knees slowly and squat down to the "basement," then straighten their knees back up to the "first floor," then rise on tip-toes and stretch to the "top floor." Emphasize keeping a straight trunk throughout.

GROUP GAMES

Although these games appeal primarily to younger children, they may also be used occasionally for upper elementary grades.

1. *Going to Jerusalem*. Play the (C PR, 1-4, Cl, BG) game as usual, with the children carrying some object on their heads throughout. If the object falls off, the child should catch it before it hits the floor and put it back

¹ Ayars, George W. *Posturing*. Mimeographed pamphlet.

on his head. However he may not hold it on his head while walking. In the classroom place a book on each unoccupied desk, and on one or two more. No one may sit at these desks during the game. While the music plays the children march up and down the aisles. The children left without seats when the music stops, go to their own seats and continue to sit with the objects on their heads. The game continues until all are put out except one.

2. *Take It Away.* The children (C PR, 1-4, Cl, BG) walk in a circle. Every other child has an object balanced on his head. On signal the children remove the object, raise it as high overhead as possible making the children behind reach for it. The rear children take the object and place it on their own heads, and all continue marching until the next signal. In the classroom the children march up and down the aisles.

3. *Stalking Wild Game.* The children (PR, 1-4, Cl, BG) line up on one side of the room. They walk slowly, taking one step each time a leader gives the signal. If the child uses poor form the leader sends him back to the starting line. The first child to reach the opposite wall touches it, turns and chases the other children back to the starting line. Any child caught is a dead animal. He either drops out, or is considered to have one strike against him. If the children are too crowded to move across the room in one line, half may start from each side of the room working toward a center line.

4. *Eraser Tag.* All children carry (PR, 2-6, Cl, BG) erasers (or other objects) on their heads. If an eraser falls off it must be replaced, but it may not be held on the head while the child runs. It is difficult to get children to carry themselves well when they become too interested in avoiding being caught.

5. *Squat Tag*. The child is "safe" if (PR, 1-6, Cl, BG) he is in a squat position with his hands on his shoulders and his chest up. The children should practice this position until they are quite skillful at it, before they do it in the tag game.

6. *Grab Bag*. Prepare as many slips (C PR, 1-6, Cl, BG) of paper as pupils, and one or two more, with the names or pictures of posture stunts or games on them. The children will enjoy making these slips, and there may be considerable duplication. Each child draws one slip. All the children with the same activity demonstrate it simultaneously, with the rest of the class as judges commenting on the performances.

7. *Follow the Leader*. Play the (C PR, 1-4, Cl, BG) game as usual with most of the activities having posture value. For suggestions see *Balance Board* (p. 98)

8. *Pussy Willow*.¹ This is a singing (C, 1-4, Cl, BG) game in which the children grow with the pussy willow. The tune climbs the scale, each line being sung all on one note.

Do "I know a little pussy,
Ra Her coat is silver gray,
Me She lives down in the meadow
Fa Not very far away.
Sol Although she is a pussy
La She'll never be a cat,
Ti For she's a pussy willow,
Do Now what do you think of that!"

Action: The children start crouched in a ball, slowly uncurl to an erect squat, while they sing, then straighten their legs

¹ Girl Scout Song Book, F. H. Gilson, Boston, 1929, p. 53.

slowly until with the last line they are erect with their arms stretched overhead. Now they start down again to a full squat singing down the scale a "meow" to each note. When they reach the bottom of the scale they spring up to the erect with a loud "Scat."

9. *Foot Exercises*. Younger children (C, 1-12, Cl, BG) consider these as games or stunts. See p. 119.

10. *Sitting Relay*. The children space (PR, 2-9, Cl, BG) themselves on the floor in several columns by lying on their backs one behind the other, heads and feet not quite touching. Then they sit as erectly as they can with their knees slightly bent. On signal the children pass a ball the length of the column by lying back and handing the ball to the one behind, who in turn lies on his back, etc. The last person in the column lies down and touches the ball to the floor overhead, then sits up and places the ball in the hands of the person in front, continuing till the ball gets back to the leader, and everyone is sitting erect. Give credit not only for rapid ball handling, but for good sitting positions, whether the team finishes first or not.

CHAPTER ELEVEN

STUNTS FOR GRADES 3-9

The stunts described in this chapter start and finish in the upright standing position and require a certain degree of elevation of the trunk while performing the stunt. Many of them also involve strong action of the upper back, shoulder and abdominal muscles. As such they offer valuable opportunities for posture emphasis, if the teacher motivates the children to work continually for better form in their performances. Use these stunts in a specific posture teaching unit, or as a part of a broader stunt unit where posture teaching is indirect. A wide grade range is indicated for many of the stunts. Whether and for how long any stunt will appeal to a certain group is determined largely by the children's previous stunt experience. The better skilled children will of course outgrow the stunt more quickly.

PROGRESS CHART RECORDS (Fig. 34)

Stunts and other self-testing activities lend themselves well to chart recording. Because these charts indicate their progress they appeal to the pupils and motivate them to outside practice. Such charts can be kept by the children themselves and thus will not be a secretarial burden to the teacher. The pupils and the teacher must set clear-cut and easily enforced standards for passing the various stunts. Passing credit might be given for a single satisfactory performance, or the chart might indicate the number of times in succession the child was able to do the stunt (chinning, for example), or the distance the stunt could be performed satisfactorily (rabbit hop, for example). Credit might even be given for practicing

will have the personal qualifications of a good judge. Delegate responsibility for keeping progress charts to one or two pupil secretaries, rather than allow many children to make recordings.

ACTIVITIES

1. *Twister*. The children stand in (C PR, 3-9, Cl, BG) good posture, facing the front of the room. On signal they jump, make a half turn and land facing the back of the room. They should land lightly with their knees bent, keep their balance without shuffling their feet and straighten to good alignment. When this can be done easily and well, a three-quarter turn may be attempted and finally a full turn. Allow three columns on the progress chart for the half, three-quarter, and full turns.

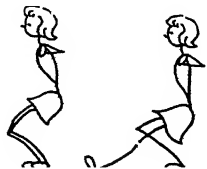
2. *Heel Click*.¹ The children stand (C PR, 3-9, Cl, BG) erectly with their feet apart slightly, facing sideward if in the classroom aisles. On signal they jump, click their heels together in the air and land lightly with their feet apart and their knees slightly bent, then rise to good alignment. A more difficult step is to click heels together twice before landing. Another variation is to start on one foot, click heels and land on the same foot, then shift to the other foot and repeat, maintaining an even continuous three count rhythm.

3. *Squat and Stand*. The children (C PR, 3-9, Cl, BG) start in good posture with their hands touching their shoulders. They cross their feet, squat and sit on the floor, then rise without uncrossing their feet or moving their hands. Any child who can do this should then try it with a bean bag

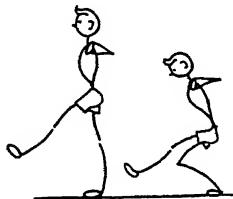
¹ Wild and White. *Physical Education for Elementary Schools*. (Reprinted by permission of the Extension Service of the Iowa State Teachers College, Cedar Falls, Iowa.)

on his head. This will make him keep his trunk erect and his head in line.

4. *Bear Dance*.¹ The children start in (C, 3-9, Cl, BG) good standing with their hands on their shoulders. They squat on their heels, then straighten one leg in front with the heel on the floor. They now jump and change their feet in a smooth continuous rhythm, keeping head and chest erect.



5. *Russian Dip*. The children start in (C, 3-9, Cl, BG) good standing with their hands on their shoulders. They raise one leg straight forward, then bend the supporting leg slowly to a full squat and return to the erect without touching the other heel to the floor. This is very difficult, and should be preceded by the *Bear Dance*. Teach this at first with a partner holding the pupil's hands to help him maintain balance, and prevent bad falls.



6. *Swan Dive*. The children lie on (C PR, 3-9, Cl, BG) their faces in an open formation. If lines are used, have the children turn slightly on the diagonal to keep from touching the child in front. On signal the children arch into a swan dive position with their arms diagonally out in front. They should keep their chins in, heads in line with their bodies and their legs straight. To pass the test the children should be able to hold a moderate arch for fifteen seconds. In the classroom children in alternate rows may lie on their desks, with their feet on the desk across the way. Or individuals may perform one at a time using the seat of any straight chair available in the classroom.

¹ Op. cit.

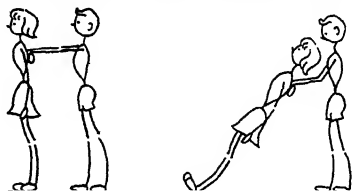
7. *Skater's Balance*. (Fig. 35) The child (C, 3-9, Cl, BG) stands in a swan dive position, raise one leg behind and gradually tip their bodies forward.



Fig. 35—Skater's balance—good alignment from head to toe.

8. *Crane Dive*.¹ From the Skater's (C PR, 3-9, Sq I, BG) Balance the child bends his supporting leg until he can knock over an Indian club with his chest. A good arch must be maintained throughout.

9. *Wooden Man*.² Partners should be (C PR, 3-9, Cl, BG) quite evenly matched in size. No. 1 stands erectly and stiffens himself in this position. No. 2 stands directly behind him in a



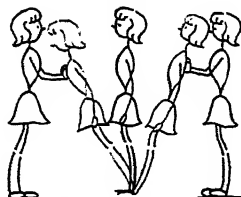
¹ Pearl, N. H. and H. E. Brown, *Health by Stunts*. The Macmillan Company, New York, 1921, p. 103. (By permission of the publishers.)

² Op. cit., under the name "Take a Chair from Under."

forward stride position and places his hands on No. 1's shoulder blades. No. 1 leans back slightly into No. 2's hands and allows himself to be lowered and raised again, maintaining a good alignment throughout. This stunt takes courage and confidence in No. 2's dependability, as well as ability to maintain postural alignment.

10. *Pendulum*.¹ This is the same as Wooden Man, with the addition of No. 3 standing in front of and facing No. 1. No. 2 pushes No. 1 forward to No. 3 who catches him through the armpits and tosses him back to No. 2.

(C, 3-9, Cl, BG)



11. *Knee Dip*.² The children stand erectly about three feet apart around the edges of a gymnasium mat. They grasp their right ankle or foot with their opposite hand, bend their left leg till their right knee touches the mat, and return to erect standing without losing their grasp at the ankle.

(PR, 3-9, Cl, BG)



12. *Coffee Grinder*.³ The children take a side leaning rest position with their bodies in a straight line, resting on one hand and both feet. They travel with their feet moving in a circle around their pivoting hand, trying to keep good alignment of their trunks throughout. A 180 degree turn is ample.

(PR, 3-9, Sq, BG)



13. *Challenge*. Where a stunt progress chart is being kept any pupil who has passed a stunt may challenge another pupil who has also passed the stunt. If either

¹ Op. cit.

² Op. cit.

³ Neilson, N. P. and Van Hagen, Winifred. *Physical Education for Elementary Schools*, A. S. Barnes and Company, 1930, p. 188.

pupil fails to give a satisfactory performance after a reasonable number of trials he loses the credit on the chart. This encourages children to practice.

Additional Activities. See:

Balance Board p. 98

See-Saw p. 104

Sit-ups p. 121

Partner Lift p. 121

Sitting Tug O' War p. 122

CHAPTER TWELVE

EXERCISES FOR GYMNASIUM OR PLAYROOM

The value of exercises in improving posture lies only in part in the selection of the right exercise. Equally important is the way each exercise is done. (Fig. 31) Pupils must know what values can be obtained from the exercise, and must try to perform it so as to attain the desired result. The exercises in this chapter improve posture because they either: (1) provide opportunities to return to good standing posture from various other positions, (2) develop strength and endurance in the muscles particularly required for good body mechanics (upper back, shoulder and abdominal muscles), or (3) promote increased chest expansion and improved circulation.

In these exercises the pupils should assume erect alignment of feet and trunk whenever possible, whether standing, sitting or leaning forward. (Fig. 31) This can be facilitated by (1) directing the pupils in the exercise with uneven counts, holding the positions on which they should concentrate until they have assumed good alignment, (2) giving manual correction to individuals not doing well, (3) having the pupils work in partners, one child coaching while the other practices, (4) appointing pupil coaches to give needed correction of form.

WARM-UP SERIES¹ (PR, 7-12, Cl, B G)

This series is well adapted to junior and senior high school grades with boys and girls in separate groups, and for grades 4-6 if stress is placed on good form with no attempt to obtain much speed or endurance. When the entire series is given, it

¹ Drawn in part from the Army Air Forces Training Bulletin, Drill I.

provides a well rounded work-out. Each exercise may of course be used individually for its specific value.

When teaching each exercise for the first time, and as often as is necessary thereafter, demonstrate it, and have it performed by the class two or three times. Then stop to comment on the good and poor points of the performance. Repeat the exercise for a total of sixteen or more counts. Then stop to give further coaching as needed before continuing. A few performances well done are of more value than many poorly done. When using the series as a warm-up or conditioning device, gradually increase the number of times each exercise is performed from sixteen counts the first week to twenty-four counts the second week, to thirty-two the third week.

1. *Bending Groaner*. Starting Position: stride standing with feet straight ahead, arms sideward shoulder height, palms up.

Count 1: Bend knees and trunk to touch the ground between the legs as far back as possible.

Count 2: Return to starting position with good trunk alignment.

2. *Knee Bend*. Starting Position: good standing with toes turned out slightly.

Count 1: Bend knees half-way and raise arms slightly sideward.

Count 2: Return to good standing.

Count 3: Bend to a full squat and raise arms sideward shoulder height, palms up.

Count 4: Return to good standing.

(Later on have the pupils raise their arms pointing toward the ceiling on Count 3, if they can keep their backs straight and heads in line.)

3. *Squat Thrust*. Starting position: good standing.

Count 1: Squat placing both hands on the ground in front of the feet.

Count 2: Jump and stretch both legs back, landing on the

toes so that the entire body is straight from toes to head, not humped or sagged.



Count 3: Jump back to squat position with chest up (Count 1).

Count 4: Rise to good standing.

(This can be used as an endurance test, by having it done to a standard rhythm, sixty counts per minute.)

4. *Toe Toucher*. Starting Position: good standing.

Count 1: Jump with feet apart and arms sideward horizontal, palms up.

Count 2: Bend forward touching right hand to left toe.

Count 3: Return to Count 1, in good alignment.

Count 4: Jump to good standing.

5. *Shoulder Rotation*. Starting Position: stride standing, arms side horizontal, palms up, keeping good alignment during arm movement.

Counts 1-8: Circle arms upward, then backward, downward and forward (not in reverse) making twelve to eighteen inch circles one for each count.

Relaxation: Drop arms to the side and shake them gently.

6. *Abdominal Twist*. (If the floor is clean or the ground dry.) Starting Position: lying on the back, arms relaxed overhead, knees bent to chest.

Count 1: Lower both knees to the right till they *almost* touch the floor.

Count 2: Pull knees up to chest again.

Count 3: Repeat to the left.

Count 4: Pull knees up to chest again.

(This may be made progressively more difficult by gradually straightening out the legs.)

RHYTHM SERIES (PR, 7-12, Cl, B G)

The order of these exercises is significant in that it provides a gradual warm-up, and avoids fatigue on any one part of the body without requiring a rest period. This series is particularly suited to girls and women and may be done to $3/4$ or $4/4$ rhythm. When exercises are done to music there is a tendency to become careless of good form. Teach each exercise without music at first, stressing correct form, and taking several days to cover the entire series. When the series is being done to music and the teacher notices poor form, he will do well to stop the music, and review the basic positions. This is a good series for program demonstration purposes.

Using recorded music the teacher or a pupil leader may demonstrate each exercise on the first four counts of each sixteen or thirty-two count phrase, with the class joining in on the fifth count. Without a break in the music the leader demonstrates the second exercise for four counts while the class rests or changes formation and then joins in on the fifth count. With a piano accompaniment a finished sixteen or thirty-two count phrase may be used for each activity, with the next one demonstrated to the accompaniment of four chords. Done in this way the class does not need to memorize the order of the exercises.

1. *Hand Clap*. Starting Position: good standing.

Count 1: Jump with feet wide apart and clap hands overhead.

Count 2: Keeping knees straight, bend down to slap floor with both hands.

Count 3: Raise trunk to erect, clapping hands overhead.

Count 4: Jump to good standing position.

2. *Side Bender*. Starting Position: good standing with feet wide apart.

Count 1: Bend trunk straight sideward to the right.

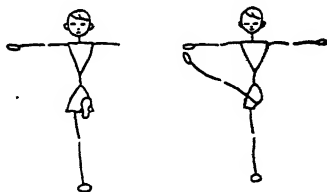
Counts 2 and 3: Bounce trunk twice slightly further down to right.

Count 4: Return to erect alignment.

Counts 5-8: Repeat to left.

(Later increase the stretch by raising the opposite arm side-ward overhead while stretching. Still later both arms may be overhead.)

3. *Squat Thrust*. See No. 3, p. 116.



4. *Airplane on Back*. Starting Position: lying on back, arms out at shoulder height, legs straight.

Count 1: Raise right leg straight up, toes pointing toward ceiling.

Count 2: Lower right leg across body to touch left hand.

Count 3: Raise right leg, pointing toe toward ceiling.

Count 4: Lower right leg to starting position. Repeat with left leg.

(When the class can do this easily and well, keeping legs straight and not twisting the shoulders, substitute the following exercise.)



4a. *Sit and Reach*. Starting Position: lying on back, arms relaxed overhead, legs spread wide on floor.

Count 1: Rise to sitting and touch right hand to left toe.

Count 2: Sit as erectly as possible with arms sideward shoulder height.

Count 3: Return to starting position on back, arms overhead.

Count 4: Relax. Repeat reaching to right foot with left hand.

5: *Elbow Lift*. Starting Position: lying on back, knees bent, elbows shoulder height, hands resting on shoulders.

Counts 1 and 2: Push against floor with elbows (not head), raise shoulder blades and chest, keeping waistline in.

Counts 3 and 4: Relax.

6. *Leg Lift*. Starting Position: lying on back, arms relaxed overhead, legs straight.

Counts 1 and 2: Bend both knees up to chest.

Counts 3 and 4: Stretch both legs straight, pointing heels toward ceiling.

Counts 5 and 6: Bend knees back to chest.

Counts 7 and 8: Lower legs to floor. (At first slide feet along floor, later keep heels off floor till the last moment.)

7. *Face Lift*. Starting Position: lying on face, hands under forehead to keep face off floor.

Counts 1 and 2: Raise head and arms off floor just a little, hands still under forehead.

Counts 3 and 4: Stretch both arms sideward, just to shoulder height, keeping them high off floor, but not arching back excessively.

Counts 5 and 6: Bend hands under forehead, still keeping elbows high.

Counts 7 and 8: Relax.

(Later both arms may be stretched forward on counts 3 and 4.)

8. *Push-Up*. Starting Position: lying on abdomen, hands on floor under shoulders, toes turned under.

Counts 1 and 2: Push body up onto hands and toes, allowing hips to lag behind chest if necessary, but finishing with trunk straight from head to toe.

Counts 3 and 4: Bend arms slowly, keeping body off floor as long as possible, then relax.

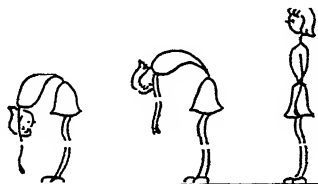
(It may be necessary at first to allow four counts to raise and four to lower body.)

9. *Relaxation Rolls.* (Figures 42 and 43. p. 130.) Teach these rolls slowly without group rhythm at first.

Counts 1, 2, 3, 4: Roll from back to face toward right with left hip leading.

Counts 5, 6, 7, 8: Roll from face to back toward left with left arm and shoulder leading.

Counts 9-16: Repeat rolling in opposite direction.



10. *Uncurling.* Starting Position: slight stride standing, trunk relaxed forward downward, arms hanging limply.

Counts 1-6. Slowly uncurl to erect by progressive movements at hips and abdominal wall, spine and finally shoulders and head, arms relaxed throughout.

Counts 7-8: Relax, falling back downward into starting position, except last time when the erect position is held.

ADDITIONAL EXERCISES (not in series)

1. *Sit-Ups.* Starting Position: lying on back, knees slightly bent and feet flat on floor, fingers touching head or neck.

Count 1: Rise to sitting.

Count 2: Touch right elbow to left knee.

Count 3: Straighten to good sitting position, chest and head erect.

Count 4: Relax and return to starting position on back.

2. *Partner Lift.* (Fig. 36) Starting Position: No. 1 lying on his back, No. 2 standing erect and astride him, his feet just below No. 1's shoulders. They grasp hands or wrists so that No. 1 touches floor, only at his heels.

Count 1: No. 1 pulls body as high as possible.

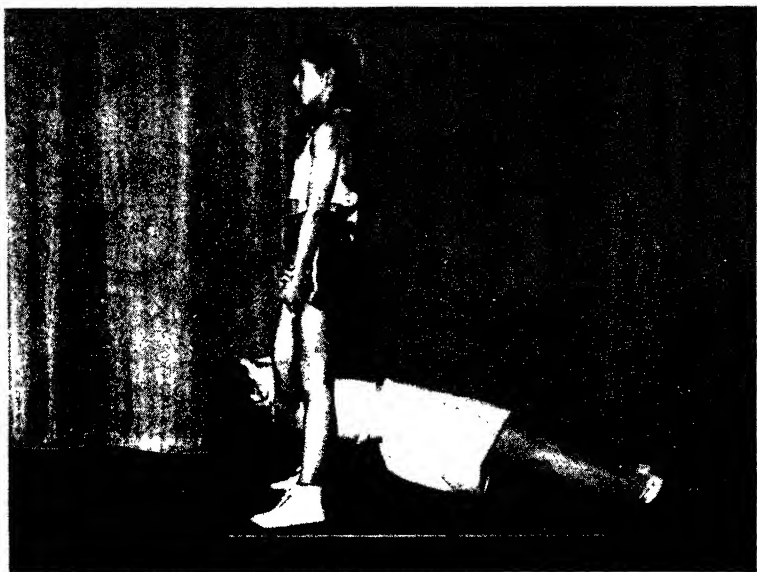


Fig. 36—Partner lift.

Count 2: No. 1 then lowers body to starting position, keeping well aligned and touching floor only at heels.

3. *Sitting Tug O' War.* (Fig. 37) Starting Position: No. 1 sitting cross legged on floor, No. 2 standing very erect behind him with side of one knee against No. 1's spine, grasping partner's fingers, keeping elbows high and to side.

Counts 1-6: No. 1 pulls arms down till hands are on either side of ears, keeping chest up, back straight and head in line. No. 2 offers resistance but permits a smooth movement, and keeps himself erect.

Counts 7-8: Return to starting position.

4. *Deep Breathing.*¹ Starting Position: good standing.

Count 1: Inhale deeply and raise arms sideward with palms up.

¹ Breathing movements are valuable to increase chest flexibility and erectness of the upper back, not to increase the volume of oxygen in the blood.

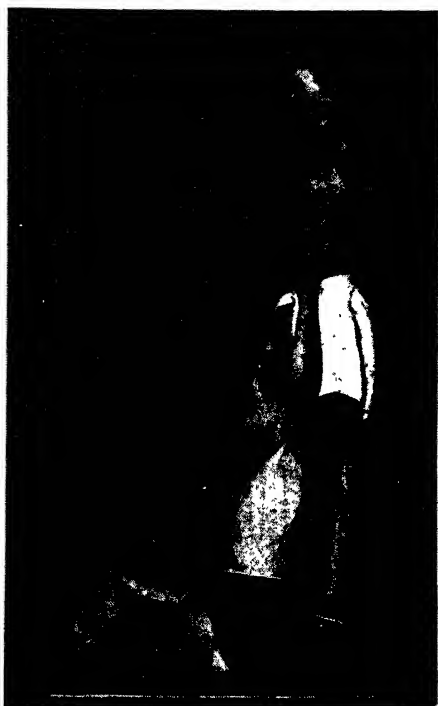


Fig. 37—Sitting tug o' war.



Fig. 38—Spine stretching.

Count 2: Exhale and lower arms.

5. *Spine Stretching.* (Fig. 38) Starting Position: sitting with knees bent to chest, hands on knees.

Count 1: Push head up as high as possible and pull elbows back strongly without losing the grasp on the knees. Keep chest up.

Count 2: Relax.

When the children do this well, add leg movements:

Count 1: As above.

Count 2: Keeping chest erect and shoulders back, relax arms and stretch legs out straight.

Count 3: Return to count 1.

Count 4: Relax.

When the children do this well, add arm movements:

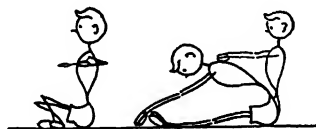
Counts 1 and 2: As above.

Count 3: Raise arms slowly sideward and overhead to touch ears, keeping chest up and head in line.

Count 4: Lower arms.

Count 5: Draw legs up to chest, still keeping chest up.

Count 6: Relax.



6. *Chest and Back Stretcher.* Starting Position: erect sitting with knees crossed, arms bent at shoulder height, finger tips touching in front of chest.

Count 1: Push elbows back vigorously and let them rebound forward again.

Counts 2, 3, 4: Three more of these chest stretching movements, keeping head erect.

Count 5: Straighten legs along floor and reach with fingers to try to touch toes, or go beyond, then rebound.

Counts 6, 7, 8: Three more back stretching movements.

CHAPTER THIRTEEN

EXERCISES IN THE CLASSROOM

The following exercises are practical in a room with limited space and stationary desks. Train pupil leaders to conduct the exercises. Gradually increase the number of times the exercises are done. Be sure that the exercises are well enough performed that their posture value is achieved. The following series presents a brief well-rounded workout. The series is suited to boys and girls from the third grade up.

CLASSROOM SERIES (C, 3-9, Cl, BG)

1. *Climbing*. Starting position: good standing.

Count 1: Swing both arms forward upward and bend one knee up to chest.

Count 2: Return to starting position.

2. *Squat and Breathe*.¹ Starting Position: good standing.

Count 1: Squat keeping trunk as erect as possible.

Count 2: Rise to good standing.

Count 3: Place palms of hands in armpits and breathe deeply enough to force hands to move sideward.

Count 4: Exhale and return to good standing.

3. *Shoulder Circles*. Starting position: erect sitting or standing, finger tips at side of neck, elbows shoulder height.

Count 1-8: Make eight circles with elbows moving up, back, down and forward (not in reverse), making sure that heads are kept erect.

Relaxation: Drop arms to sides but do not slump.

4. *Half Sit-up*. Starting Position: sitting sideward in seat

¹ See footnote, p. 122.

with feet braced under the seat across the aisle, fingers on neck. (See Rowboat, p. 102.)

Count 1: Slowly lean back to a forty-five degree angle, keeping chest up and head and shoulders well back.

Count 2: Return to good sitting.

5. *Toe Curling*. Starting Position: sitting, feet in aisle six inches apart and toeing straight ahead, forearms resting across knees, preferably shoes removed and feet on a sheet of paper.

Count 1: Curl toes under hard.

Count 2: Keep toes curled and swing both feet, pivoting on the heels, until the toes touch. Do not move knees.

Count 3: With toes still curled and feet touching, raise forepart of feet from floor.

Count 4: Relax returning feet to starting position.

6. *Rest on Desks*. (p. 129)

ADDITIONAL ACTIVITIES—not in series.

1. *Squat Thrust at Seats*. Starting position: good standing.

Count 1: Squat, placing hands on seat on both sides of the aisle.

Count 2: Jump, extending both legs backward to support body in a straight line from toes to head.

Count 3: Jump back to a squat position with chest up.

Count 4: Return to good standing.

(Partial push-ups may be done from the position of Count 2, by bending arms till hands and shoulders are on a level and then straightening arms again.)

2. *Breaking Chains*. Starting position: sitting erect in seats, hands clasped in front of chest.

Count 1: Pull against clasped hands.

Count 2: Release grip without a jerk and push elbows back as far as possible, keeping elbows shoulder height and head in good alignment.

3. *Swimming*. Starting Position: lying on hips on seat or desk. (See Swan Dive, p. 111.)

Movement: Breast stroke or crawl movements of the arms only, legs stationary.

(It may be necessary to alternate the rows in order to keep the children from colliding.)

4. *Shoulder Hunching*. Starting Position: standing in aisle with one hand on desk on either side and sagging whole body weight onto hands by lifting feet from floor.

Count 1: Push head as high as possible and chest out by drawing shoulders down and back.

Count 2: Relax, letting body weight sag and shoulders rise toward ears.

5. *Trunk Bending*. Starting Position: stride standing with hands on hips.

Count 1: Bend trunk half way to horizontal, keeping upper back straight.

Count 2: Return to good standing.

(Later encourage the children to go farther down, if they can keep their backs flat. The exercise is more difficult to do with the hands placed on the shoulders, or stretched overhead in line with the trunk.)

Additional activities suited to classroom use will be found in:

Chapter 9 *Teaching Fundamental Skills.*

Over half of the activities

Chapter 10 *Games and Stunts.*

No.'s 1, 2, 3, 4, 6, 7, 10, 14 (p. 101ff)

No.'s 1, 2, 6, 7, 8, 9 (p. 104ff)

Chapter 12 *Activities for Gymnasium.*

Warm-up Series, No.'s 1, 2 (p. 116ff)

Rhythm Series, No.'s 2, 10 (p. 118 and 121)

Chapter 14 *Relaxation.*

No.'s 1, 3, 4, 5 (p. 128ff)

No.'s 1, 2 (p. 132)

Chapter 16 *Academic Activities.*

Entire Chapter

CHAPTER FOURTEEN

RELAXATION ACTIVITIES

The most important factors in promoting relaxation in the school are the teacher's sympathetic appreciation of his pupil's capacities, and the general atmosphere of the classroom and the school as a whole. Low voices, absence of rush, happy industry, and a calm and peaceful school day with varied opportunities for activity and rest—all these encourage habitual relaxation among children and teachers. The teacher should also make sure that the pupils know what relaxation means. Synonyms like "limp," "floppy," "like Raggedy Andy," and similarities to the marionette which has to have strings to make it move, all help. The following activities help children learn what relaxation is, and give them opportunities to practice relaxing. They are useful at any age where the need is recognized.

1. *Limp Limbs.* The children raise (C PR, 1-12, Cl, BG) their arms forward to shoulder height, then release all muscle tension in their arms. Their arms, if really relaxed, will drop quickly and heavily and then swing limply, finally coming to a standstill. Contrast this with having them consciously *place* their arms back at their sides. Grades 1 and 2 consider this a game.

2. *Limp Trunk.* The children (C PR, 1-12, Cl, BG) stand with their feet wide apart and their bodies leaning forward limply.

(a) They swing their bodies limply up and down, and from side to side with their arms dangling

in front. (b) The children relax in this bent over position while the teacher goes from one to another giving a little push to see if their bodies will react with a limp rebound. (c) The children may also slowly uncurl to an erect well aligned standing position, with their arms remaining relaxed. The teacher or other pupils may test the relaxation of the arms of various pupils, by swinging them gently as they walk up and down the aisles.

3. *Limp Head*. Sitting quite erect (C PR, 1-12, Cl, BG) with their hands in their laps, the children let their heads drop forward on their chests. They then roll their heads slightly over to one side and let them relax forward again. This is restful after long sitting.

4. *Rest on Desks*. The children lean (C, 1-12, Cl, BG) forward, resting their heads on their arms on their desks, heads turned away from the light and eyes closed. One arm may be dangling at the side in the aisle. While the children rest the teacher may check on relaxation by gently swinging this arm.

5. *Limp Legs*. This follows the same (C, 1-12, I, BG) principle as No. 1 above. If the child sits on a table or on a high chair he can straighten one leg forward, then release all tension and allow it to drop heavily under the table and gradually dangle to a standstill.

6. *Limp Limbs Lying Down*. This is (PR, 1-6, Cl, BG) the same in principle as No. 1 and No. 5 (7-9, B G) above, but is performed lying down so that greater relaxation is possible. The children raise one arm just a little (tension) and allow it to drop back to the floor (relaxation). When they do this with their legs, the children should feel the large muscle on the front of the thigh tighten before the movement starts. This

is called "setting a muscle." This tension disappears only after the movement is completed and the heel back on the floor, and then only if the children really relax their legs. By recognizing this tension and relaxation, the children can become aware of other "set muscles" in their bodies, and consciously relax them, particularly their neck and shoulder muscles which become tense with prolonged sitting.

7. *Rest Period.* Use this device to (PR, 1-12, Cl, B G) end a rather boisterous or fatiguing play period. The children lie on their backs with their eyes closed and let themselves go as limp as possible. While the children rest, try the next activity.

8. *Testing for Relaxation.* While the (PR, 1-6, I, BG) children relax, the teacher lifts one arm (7-9, B G) gently, swings it slightly and lets it drop. He notes the extent of relaxation. If he encounters stiffness the teacher may help the child to relax by reminding him not to try to help the teacher, but to pay no attention to his arm and thus make the teacher do it all. Children who are persistently stiff need special help.

9. *Relaxation Rolls.* (Fig. 39) The (PR, 3-12, Cl, BG) following rolls, adapted from the techniques of modern dance,¹ help to teach the basic principle of relaxation that movement takes place not only by working muscles but also by letting gravity do the work while muscles relax. These rolls should be preceded by such activities as No.'s 1, 3, 6, to teach awareness of muscle tension in movement.

Starting Position: lying on the back with arms relaxed above the head on the floor.

Turning from the Back to the Face. (a) With assistance: the child's partner gently lifts and pushes his right hip over

¹ H'Doubler, M., *The Dance*. Harcourt, Brace and Company, Inc. 1925, p. 131 and 247.



Fig. 39—Relaxation rolls, with and without assistance.
Above—hip lead; below—shoulder lead.

his left one till the weight of the leg crossing the body turns his whole body onto his face. (b) Without assistance: the child turns his own hip and leg slightly (tension) till they cross the midline of the body and the rest of his body drops (relaxation) over onto his face. (Fig. 39)

Turning from the Face to the Back. (a) With assistance: the child's partner grasps his wrist and shoulder at the armpit, lifts his wrist with the arm straight, and gently draws his arm, shoulder, and gradually his upper trunk and head across the midline of the body, until the weight is great enough to pull the rest of his body over. (b) Without assistance: the child lifts his own hand and arm toward the ceiling, then across behind him and turns his head to follow his arm (tension). When the weight of his arm and head is sufficient he stops working and allows it to turn the rest of his body (relaxation). (Fig. 39)

ADDITIONAL ACTIVITIES

Most exercises involving a specific contrast between tension and relaxation have value in encouraging relative relaxation in movement. Typical examples are:

1. *Squat and Reach.* Starting Position: good standing. (C PR, 3-12, Cl, BG)

Count 1: Squat maintaining balance and keeping trunk erect. (Tension)

Count 2: Return to good standing.

Count 3: Allow the trunk to drop forward downward limply. (Relaxation)

Count 4: Catch trunk on the rebound and return to erect standing.

2. *Arm Flinging from Cross to Fly.* (C PR, 3-12, Cl, BG)
Starting Position: erect standing with feet apart.

Count 1: Fling arms diagonally overhead to a swan dive position. (Tension)

Count 2: Without holding the position of Count 1, allow arms to drop limply and cross in front of body (relaxation), and continue immediately again with count 1. (An attempt should be made to keep the trunk in good alignment. This involves tension or work, but the arms move in as relaxed a fashion as possible.)

CHAPTER FIFTEEN

APPARATUS ACTIVITIES WITH POSTURE VALUE

Apparatus activities are intensely interesting and challenging to boys and girls in elementary and junior high grades. If children have achieved normal levels of apparatus skill through the ninth grade they will continue to enjoy these activities through senior high school. These activities offer many opportunities to teach good body mechanics. Because of their natural appeal they are excellent activities through which to introduce a posture unit, especially where past experiences with posture teaching may have been dull or distasteful.

Success in apparatus activities often can be measured and scored on a progress chart. (p. 109) Thus the children become aware of their improvement, and may compete with their own past performances and the achievements of others in the class. Apparatus activities also provide excellent shoulder girdle and trunk muscle development, the type of activity so frequently lacking in children's daily activities and omitted from most school physical education programs.

EQUIPMENT

Desirable gymnasium equipment for all grades includes an adjustable high bar or horizontal ladder for suspension activities and a buck, box, or horse for vaulting activities. Where several pieces of equipment are available the program can be quite varied. Where these standard pieces of equipment are not available, some substitute equipment may be improvised, especially for use in the elementary grades.

Suspension or Hanging Equipment. An inexpensive adjustable bar may readily be inserted in a doorway. (Fig. 29) Hardwood or metal brackets with square or V-shaped (not round) slots every six inches are attached at either side of a door jamb. Cut a hardwood bar to fit the bracket slots. The center section of the bar should be rounded to a diameter of $1\frac{1}{2}$ to 2 inches. If the brackets are adjustable between 6'6" and 4'6" they will accommodate most school age children. The bar can be removed when not in use.

Vaulting Equipment. At least one piece of standard vaulting equipment should be purchased, either a buck, box or horse. If this is out of the question, a strong wooden box with a broad base, or a long narrow table may be padded and covered with canvas, and weighted heavily at the bottom with sand bags or gravel or iron bars.

Mats. For safety, a gymnasium mat must be used on the landing side of all vaulting apparatus, and under hanging apparatus where the children jump or could fall from any height.

POSTURE VALUE OF APPARATUS ACTIVITIES

Suspension or Hanging Activities. (1) Gravity pulls the trunk into a good alignment, instead of tending to collapse it, as in standing. The *feel* of this straightness will be recognized by the children if the teacher calls attention to it. Much can be learned about good standing from the experience of hanging with the chest high, the abdominal wall retracted and the back quite straight. (2) A desirable stretch is placed on the front chest muscles, muscles which often become too short as a result of round-shouldered sitting. (3) Traveling movements on hanging apparatus and chinning activities require strong shoulder muscle development, a development which makes habitually improved posture easier to maintain. (4) Leg movements from the hanging position require strong abdominal muscles. Since weak abdominal muscula-

ture is frequent in poor posture, this type of activity is highly desirable.

Vaulting Activities. (1) Good form includes good posture at the approach to the apparatus, and frequently also erect carriage of the trunk while on the apparatus. (2) Landings should be light, with the feet close together and the trunk should be erect and well balanced at the completion of each vault.

Assuring Good Posture Effects. These posture values do not automatically result from any apparatus program. Too often the teacher fails to inform the children of these values. And even *telling* the children will not be enough. Present each activity with standards for good form which challenge the pupil and give him satisfaction and pride in his performance and his physical development.

SAFETY

Train children to maintain adequate standards of safety with the use of all apparatus. Mats are essential wherever children might fall, or where they frequently land on their hands and feet simultaneously. Where children could fall forward on their knees or their faces it is essential that a receiver be there ready to break the fall. In addition to affording greater safety, a receiver reassures the timid pupil who might otherwise hesitate to attempt an activity. Children should be trained to be dependable receivers, since the teacher cannot do all the receiving and still manage his entire class effectively. The pupil performing on a piece of apparatus where a receiver is needed should be taught not to perform unless the receiver is there and is watching, and not to follow the preceding performer in such close succession that he might fall on top of him. Children should accept this responsibility instead of blaming the receiver for not being on guard or blaming another child for loitering in front of him.

ACTIVITIES

Present first those activities requiring simple co-ordination and little strength, with each succeeding activity being slightly more difficult. When a child can perform an activity in the prescribed good form, he works on the next more difficult one. As he increases in skill and strength he will be able to do some rather difficult activities with which he formerly had no success.

The activities described below are subdivided into steps requiring progressively greater strength and skill. Teach them in this approximate order, and if a progress chart is being used, each child should receive credit for each successive step. This will keep him practicing at the level from which he may profit most. If the child can do an activity in good form a reasonable number of times he will profit more by working at a harder activity than by repeating the same activity over and over. He thus applies the "overload principle" of increasing strength and endurance.

HANGING ACTIVITIES (PR, 1-12, Sq I, B G)

1. *Stationary Hanging.* The hands should be at least shoulder distance apart and the palms facing forward. The head should be held erect. When jumping down, the landing should be light and the pupil should rise to good alignment.
 - (a) Hang passively for thirty seconds, forty-five seconds and sixty seconds.
 - (b) Hang actively (shoulders drawn back and chest up) for thirty, forty-five, and sixty seconds.
 - (c) Hang with alternate slow controlled knee upward bending, five times with each knee.
 - (d) Hang with double slow controlled knee upward bending, with the knees coming at least to the horizontal, five times.
 - (e) Hang with double straight leg raising forward to the

horizontal and slow controlled lowering of the legs, five times. (This is very difficult.)

2. *Inverted Hanging by the Knees*

- (a) Reach the inverted position by raising and hooking in *one* leg at a time, and hang for five seconds.
- (b) Reach the inverted position by raising *both* legs at the same time, and hang for five seconds.
- (c) "Skin the Cat" by pulling the body through under the bar both forward and backward, starting from a standing position and giving a jump each time.

3. *Chinning Progression*. These steps are recommended only for the children who cannot chin themselves once.

- (a) Partner Lift. (p. 121)
- (b) Sitting Tug O' War. (p. 122)
- (c) *Low Bar Pull-ups*. Tie a low bar across the backs of two chairs. The child grasps the bar and swings himself under it so that he is resting on his heels with the bar directly above his chest. He then pulls up and touches his chest to the bar, and lowers himself again, continuing as long as he can.
- (d) *Active Hanging from a High Bar*. See *Stationary Hanging* (b) above.
- (e) *Hold Chinning Position*. The child jumps, is lifted, or steps from a chair into the chinning positions, holds it up to fifteen seconds, then lowers himself very slowly till his arms are straight, and jumps down.
- (f) *Rope Climbing*. This is essentially a chinning movement. By wrapping the legs around the rope and gripping it tightly at the knees and ankles, the leg muscles may be used to reenforce the arms if they are too weak to lift the body unassisted.
- (g) *Full chinning* as many times as possible.

(4) *Hanging with Traveling*. This requires a high bar or a horizontal ladder at least six feet long. Good form requires that the legs stay together and straight, though they may

swing from side to side with the whole body. The children may make a specified number of trips across the bar, or do a specified number of hand shifts.

- (a) *Side Traveling with Body Swing.* Jump to a stationary hanging position at the left end of the bar. Then travel sideward by moving the right hand far out to the right, and bringing the left hand up only within shoulder distance of the right. Continue traveling the length of the bar, and if the bar is short, re-trace the bar, allowing the legs to swing in line with the body and thus easing the load on the hands.
- (b) *Side Traveling without Body Swing.* Perform this as described above, but keep the body as vertical as possible all the time.
- (c) *Side Traveling with Forward Turns.* From the stationary hanging position at the left end of the bar, travel to the right by moving the left hand out beyond the right and turning the body to the right, then by shifting the right hand beyond the left and turning the body to the left. Allow the body to swing at first. Later try to keep the body vertical.
- (d) *Side Traveling with Backward Turns.* From the stationary hanging position at the left end of the bar, travel to the right by moving the left hand behind the body and turning to the left, then by reaching the right hand behind the body and turning to the right. This may be done with and without body swing.

5. *Original Activities.* Children enjoy inventing activities suited to the particular equipment available. Arrange these activities in the order of their difficulty. Be sure they are safe for the level of skill of the children attempting them.

VAULTING ACTIVITIES (PR, 1-12, Sq I, B G)

No attempt will be made to cover the field of vaulting activities. Equipment locally available will determine those

activities practical in any particular school. Only the elementary considerations which are so important to a carry-over into body mechanics habits will be presented here.

1. *Progression in Landing.* Good form in landings should be taught, and insisted upon from the very first jumping experiences in the physical education class, both from the standpoint of safety and the mastery of basic skills. Four steps of progressing difficulty may be taught by means of the standing broad jump, or jumping over a low stool, or the game "Jump the Brook," with all landings being made on a mat. Strain and possible knee injury will be avoided if the children are taught to land with their feet quite close, toes turned out slightly and the knees bending diagonally outward, rather than with the feet wide apart and the knees bending diagonally inward.

- (a) Land on the mat with the toes coming down first, sinking to a full squat and rocking forward onto the hands and knees, and finally rising to good standing.
- (b) Land lightly on the mat toes first, sinking to a full squat position with the hands touching, and then rising to good standing.
- (c) Land lightly in a full squat, keeping the trunk erect and not using the hands. Rise to good standing.
- (d) Land lightly in a half squat position with the trunk erect and balanced. The arms may be extended shoulder height. Rise to good standing. This form should not be expected of children below the fourth grade.

2. *Progression in Jumping.* The children should be able to control their bodies in the air and land well before proceeding to the next more difficult type of jump. All these jumps should be made from a two foot take-off.

- (a) Jump the Brook, or Standing Broad Jump. The children see how wide a brook they can jump, taking off from both feet and landing on both feet.

- (b) Jumping down from a low box or bench and landing well. Add jumping as high into the air as possible and landing well.
 - (c) Jumping down from a higher box, table or gymnasium horse, and landing well.
 - (d) Jumping over a low rope and landing well.
 - (e) Straddle vaults. Good form involves good posture on the approach, springing enough to use the hands only lightly and bringing them quickly to the sides of the body rather than leaving them between the legs, keeping the trunk as erect as possible in the air, and getting the feet together for a light landing, and rising to erect standing.
 - (1) Leapfrog over a pupil crouched quite low.
 - (2) Leapfrog over a pupil crouched higher.
 - (3) Straddle vault over a buck.
 - (4) Various vaults over the gymnasium box and horse.
3. *Original Vaulting Stunts.* Encourage the children to invent stunts on any piece of apparatus available. Add the most popular stunts to the class practice, being sure that all are done under safe conditions with receivers where advisable.

CHAPTER SIXTEEN

ACADEMIC ACTIVITIES FOR CLASSROOM USE

Every effort must be made to integrate posture skills with all aspects of the school day, and to provide for carry-over into the home. Posture activities and posture interest must not be confined to the gymnasium or to the physical education period. The following activities, suited to use in health education units and for incidental teaching, provide pupils with the background knowledge which increases their desire for good posture. Some of the activities listed here are also suited to interclass and school-wide motivation, although Chapter 17 discusses this latter problem in detail.

CARE OF FEET AND SELECTION OF SHOES

The discussion of foot care, and the activities recommended for teaching good habits of walking and for strengthening foot musculature lend themselves well to classroom use. Since mild to moderate foot weakness is very common (Fig. 10), foot hygiene may profitably be taught to the whole class. Parents of those children with remediable foot defects should be contacted directly in order to enlist their support in desirable follow-up. However all children should at least know the signs of good and poor feet and how to select shoes wisely.

Shoe Shape. The shoe should be the shape of the foot. It must therefore have a low broad heel, and quite a straight inner line forward from the ball of the foot, not a line curving outward to a point at the end of the toe. Only then will the toe of the shoe avoid crowding the toes (Fig. 40).

Shoe Fit. The shoe should be approximately half an inch longer than the longest toe when measured standing. During periods of rapid growth three quarters of an inch is better. If it is not possible to feel the end of the toes with the thumb, the feet should be observed under the x-ray. The ball of the foot should bend in the shoe at the broadest part of the ball of the shoe, as tested by standing in the shoes and rising on tip-toe. The shoe should fit snugly around the heel and ankle and under the arch, but should be roomy in the toes.



Fig. 40—Growing feet deformed by poorly shaped shoes.

Shoe Style. An oxford which laces well up the instep is best because it is easily adjustable and gives control at the heel and the instep. A 5-6 hole lacing is usually better than a 3-4 hole lacing because it fits higher around the instep. High shoes however are not necessary for most children. Very stiff and heavy shoes should always be avoided as they hinder normal foot action in walking, and therefore tend to weaken the feet.

Shoes for Girls. Dress shoes with elevated heels and narrow toes should not be worn before fifteen or sixteen years of age, and then only for very occasional dress-up. All dress shoes are hard on the feet, however they do more harm to growing feet than to adult feet. (Fig. 40) Loafer or ballet shoes so popular

with girls are not recommended. They are especially poor for children who have weak feet, who toe out when they walk, roll their ankles inward, and wear down the *inner* edges of the heels and soles of their shoes. This type of shoe is extremely flexible, affords no support, usually is fitted too short in order to stay on, and encourages poor habits of walking. The same may be said of sandals and most canvas playshoes. (Fig. 41)

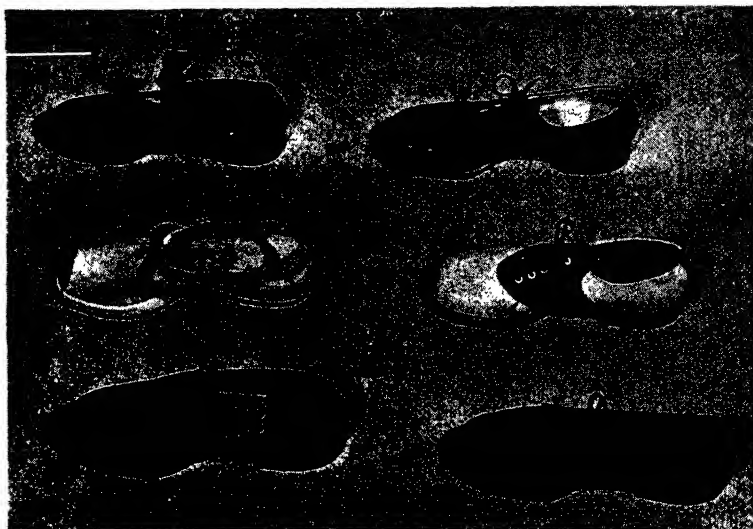


Fig. 41—Shoes for growing feet. Left—poor; right—good.

Shoe Construction. Good leather shoe uppers are preferable to suede or patent leather, both of which cause the feet to perspire and become cold and damp. Leather or composition soles are preferable to rubber soles because they wear better and usually hold their shape far longer, and are therefore more economical in the long run. Dress shoes for growing children are an extravagance, since they are usually outgrown before they are outworn. (If shoes are too short, they may be cut across the front into an open-toed style to let the toes straighten out.)

Going Barefoot. Children with weak, poorly aligned feet should not go barefoot. Vigorous children with strong well aligned feet should go barefoot only on grass or sand, not on city pavements.

PROJECTS ON SHOE SELECTION AND CARE OF FEET

1. *Foot and Shoe Tracings.* (a) Each (C, 4-12, Cl, BG) child traces his foot while sitting. (b) Without moving his foot the child stands and traces it again using a colored crayon.

Compare the two tracings and discuss the value of fitting shoes by standing and walking. (c) Now trace the shoe outline on top of the sitting and standing foot outline using still a different color crayon. Discuss the shape and fit of shoes. Where the shoes seem to be a poor fit, or if the child has corns and calluses on his feet or complains of foot pain, follow-up care is needed.

2. *Tracing High and Low Heeled Shoes.* (C, 7-12, Cl, G) A high and a low heeled shoe of the same size for the same girl should be traced one on top of the other. Note the decrease in area for the toes, the small base for the heel, and the shortened total length of the shoe print for the high heeled shoe. Discuss the effect of toe crowding, strain on the ball of the foot, instability and fatigue.

3. *Shoe Collection.* Each child and the teacher offers one of his shoes for the collection. (C, 4-12, Cl, BG) The class evaluates all shoes in the light of their knowledge of the subject.

4. *Foot Prints.* Dampen the foot on a (C, 1-12, Sq, BG) towel soaked in water with a disinfectant, or step in a pan of disinfected water and walk across the floor. Discuss primarily the angle of the feet in walking. Remember that all low or

flat foot prints are not defective, and not all high arched footprints are indicative of strong feet. Alignment of feet and legs is more important. (Figs. 10, 11)

5. *Frequent Causes of Painful Feet.* (C, 5-12, Cl, BG)
Class discussion should bring out the importance of general health, nutrition, muscle strength, specific habits of standing and walking, selection of appropriate shoes, good shoe fit, occupational strains and specific fungus infection (athlete's foot). It is also appropriate to consider the effect of painful feet on disposition, choices of what to do in leisure time, and caliber of work. Point out that painful feet often cause a person to walk poorly in an effort to escape the pain.

FOOT STRENGTHENING EXERCISES

Activities which teach children good form in standing and walking have been presented on p. 91. The exercises given below strengthen the muscles which hold the arches in good position.

1. *Toe Gripping.* The children (C PR, 1-12, Cl, BG) stand or sit with bare or stocking feet on a piece of paper. They curl the toes of both feet under strongly, rolling their ankles apart and lifting their arches as high as possible. This is an overcorrected position which makes important foot muscles contract strongly. Now they relax their feet into the original standing position. They continue the exercise at the rate of twenty to thirty times a minute. The exercise should be repeated morning, noon, and night.

2. *Rising on Toes.* Standing as (C PR, 1-12, Cl, BG) above, the children rise onto their toes and at the same time swing their heels out into a pigeon-toed position, hold the position momentarily, and then sink back onto their heels along the outer borders of the feet.

3. *Marble Game*. (Keep thirty to forty marbles in a tightly covered jar filled with a germicide.) The children sit on the floor and pick up a marble with their toes and place it in the palm of the opposite hand, which rests on the opposite knee. They pick up the marble several times with each foot. (C PR, 1-6, Cl, BG)

4. *Marble Race*. The child who first picks up his marble, using the form described above, five times with each foot wins. (C PR, 1-6, Cl, BG)

5. *Marble Walking*. The children walk with a marble held *under*, not between, the first and second toes of each foot. If they lose a marble they must catch it again with their toes. Many children will find this impossible unless they are in bare feet. (C PR, 1-6, Cl, BG)

6. *Writing with the Toes*. The children place a pencil under all five toes with the point extending beyond the fifth toe, and write with the sole of the foot turned in. (C, 1-6, Cl, BG)

PROJECTS RELATED TO GENERAL BODY MECHANICS.

1. *Straight Man—Crooked Man*. Make a straight column of building blocks labeled Straight Man, and a zig-zag column labeled Crooked Man. Decide which column is most stable and looks best. Decide where children with poor posture carry their head (top) block, where their shoulder block, their hip block, etc. (C, 1-2, Cl, BG)

2. *Good Mechanics All About Us*. Discuss mechanics as seen in nature and science and compare it with body mechanics. Compare a straight tree with a warped one, a well built house with one with a sagging roof (C, 3-12, Cl, BG)

line, a sway-backed horse with a sound one, a knock-kneed horse with a straight legged one, a wagon with wheels out of alignment with a body with ankles rolling inward.

3. *Collecting Pictures.* Make a loose-leaf scrap book of good and poor examples of body mechanics. Rotate them on a bulletin board and discuss them critically. Children should learn to analyze what they read.

4. *Poster Making.* Posters should be worthy from the standpoint of art as well as posture motivation. See p. 172.

5. *Posture Conditioning Series.* By reviewing all the posture stunts and exercises they have done, the children can develop a series of activities suitable for use in the classroom or at home, and a series for warm-up use in the physical education period. Each list should include at least one activity to (1) strengthen the back, (2) strengthen abdominal muscles, (3) strengthen shoulder muscles, and (4) give practice in good carry-over to walking or other daily activities.

6. *Posture Checker.* Children are selected by the teacher or elected by the children to check on the posture of the class at specific times known to the children. Checkers may also be unknown and give surprise reports. At first, have reports on good performances, singling out poor performances only where the children have been educated to accept adverse criticism constructively.

7. *Password Club.* The children who show habitually poor posture may form a secret club. They decide on a password. Any member, including the teacher, who notices any other member, including the teacher, slumping gives the password. No one knows who is being singled out,

but all are reminded including the offending one. Non-members are of course completely mystified, and children love a mystery. The device takes the place of nagging.

8. *Posture Writing*. This offers an effective tie-up with English, speech, spelling, and dramatics. Examples of poems, jingles, songs, skits and radio programs are given in this chapter and in the appendix. (C, 3-12, Cl, BG)

9. *Posture Code*. The children develop a code or pledge on the subject of posture. They should also plan on pleasant ways of remembering to live up to it. (C, 4-6, Cl, BG)

10. *Posture for Speakers and Actors*. Many points of stage presence and acting may be integrated in this project: the impression of confidence and poise given by good posture, and the impressions given by poor postures of various kinds (the slumper, the braggert, and the old man). (C, 4-12, Cl, BG)

11. *Posture Privileges*. Include habitually good posture among the factors considered when selecting children competent to assume the many school privileges which they covet: running errands, holding doors, collecting papers, and escorting visitors. The children may vote for the pupils entitled to represent the class on those occasions for the coming week. (C, 1-6, Cl, BG)

12. *Treasure Hunt*. Each team draws from a hat one or more slips with "treasures" to find and be ready to discuss: a picture of good sitting posture, poor use of the feet, an x-ray of a foot, a statue in the city which shows something interesting about body mechanics, pictures of health habits conducive to better posture. If the children make up these slips in the first place the value of the project is doubled. (C, 4-9, Cl Sq, BG)

13. *Sleep Record.* The children (C, 4-12, Cl I, BG) keep a record for two weeks indicating the hour when they turned out the light at night and when they got up in the morning. The children then prepare class statistics. Reports may be unsigned if necessary for accuracy.

14. *Posture Program.* The children in (C, 5-12, Cl, BG) one grade may wish to work out a program applicable to the entire school population, or several grades might work on it together. Suggestions are given in Chapter 17.

15. *Posture Manikin.* Manikins sufficiently jointed to be moved into the common types of good and poor posture may be made by mimeographing Fig. 42. These manikins are helpful in making posters. A similar manikin, the "Dwight Posture Model" may be purchased already assembled.¹

POSTURE POEMS AND JINGLES

Encourage children to compose their own poems and jingles. In addition to offering an opportunity for creative expression, pupil inspired poems afford more personal media through which the class may be motivated to better improvement. One or two lines of any of the following rhymes may be used to stimulate the children to compose their own completions. Or the rhymes may be used in their entirety.

With shoulders square
And chest up fine
A man is worth
A small gold mine.²

Straight and tall
At the wall—
Walk round the room
Tall as a broom.

¹ Order from Phillip Aspinwall, 222 Beacon Street, Boston, Mass. Cost 50¢.

² Adapted from Howland, I. S. "The Teaching of Body Mechanics." A. S. Barnes and Company, New York, 1936, p. 40.

Lift your chest, lift your head
Look wide awake and get ahead.

There is a boy in our class
Who stands like a letter S.
It's the letter T he ought to be,
So he'd hump less and less.¹

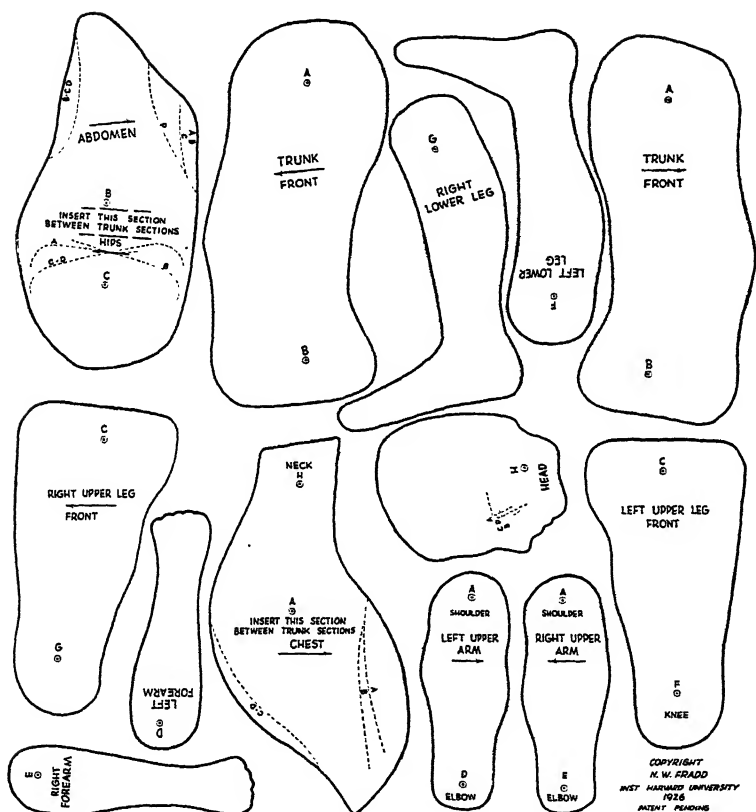


Fig. 42—Posture Manikin. (Reprinted by permission of Norman W. Fradd, Instructor in Physical Education, Harvard University)

¹ Ibid., p. 39.

There was a young lady named Flo,
Who improved her chest so low.
Now she's not such a mess
When she tries on a dress,
And she has a swell new beau.¹

A navy man is called a gob.
He's straight and strong to do his job.

*How Do You Walk?*²

Are you a rounded question mark,
Ungraceful, lacking vim;
Or a living exclamation point
Alert, courageous, trim?
—Pearl A. McDonald

*Posture Jingle*³

Good posture is an asset
Which very few possess.
Sad to relate the favored ones
Seem to be growing less.
We see the folks around us,
All slumped down in a heap,
And the way that people navigate
Is enough to make you weep.
Some elevate their shoulders;
Some hollow in their backs;
Some stiffen up their muscles;
And some just plain relax.
The one who walks with grace and poise
Is a spectacle so rare
That even down on gay Broadway

¹ Op. cit., p. 40.

² Ayars, George W. "Posturing." Mimeographed pamphlet, State Department of Public Instruction, Division of Health and Physical Education, Dover, Delaware, p. 5.

³ Attributed to Physical Education Department, State of Illinois. Reprinted in Ayars, George W. "Posturing." Mimeographed pamphlet, State Department of Public Instruction, Division of Health and Physical Education, Dover, Delaware, p. 7.

The people turn and stare.
If you would cut a figure
In business, sport or school,
Just mind the posture precepts
Obey the posture rule.
Don't thrust your head out turtle wise:
Don't hunch your shoulder so;
Don't sag and drag yourself around;
No style in that you know.
Get uplift in your bearing,
And strength and spring and vim;
No matter what your worries,
To slouch won't alter them.
Just square your shoulders to the world
You're not the type to quit.
It isn't the load that breaks us down
It's the way we carry it.

*For Better Feet*¹

A building whose foundation is laid upon the sand,
May stand awhile and seem to be a masterpiece of man.
But when the tempest and the storm release their savage call,
The building in its weakness will topple then and fall.

So man, much like the building, if he would live for length,
Must guide, conserve and guard his foundation's strength
For perfect health and comfort we search and hope to meet,
So start now at the bottom, begin to help your feet.

*Find Yourself in Our Zoo*²

The bashful turtle in his shell
Pokes out his head when all is well.
Don't let *your* shyness make you slump,
You'll only get a dowager's hump.

¹ Ayars, George W. "Posturing." Mimeographed pamphlet, State Department of Public Instruction, Division of Health and Physical Education, Dover, Delaware, p. 6.

² Department of Physical Education, Women's College, Greensboro, North Carolina. Mimeographed material. Author unknown.

The elephant's famed
'Cause he never forgets,
But always he leads
From the rear when he sits.

Gargantua grows older and bolder,
He lowers his head and hunches his shoulder.
Don't copy his pose whatever you do!
That little act makes a monkey of you.

The penguin's dressed in black and white,
His coat is neat and fits just right.
He waddles along tilting back on his heels—
What a round little tummy this posture reveals!

Wiggle, wiggle goes the fish,
To flip his tail may be his wish,
But, folks, when walking, you don't swim!
Why undulate with so much vim?

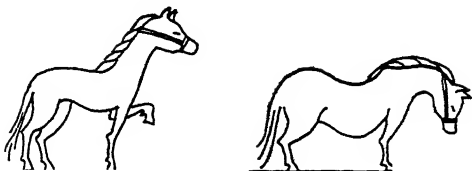
Whether you're slim, or whether you're fat
For a lesson in grace, just look at the cat.
Watch how erect she remains when she sits
With the poise of a lady enthroned at the Ritz.

A regal creature is the swan
Whose small trim head is set upon
One of the longest necks we know—
Queenly because she holds it so.

The stork stands on one leg all day,
Perhaps he likes to—who can say.
But humans posed thus look absurd
And really only rate the bird.

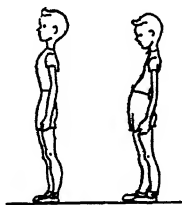
The panda, when sitting, slumps down in his chair,
No doubt he still thinks he's crouched in his lair.
But folks who fall into his round-shouldered pose
Look very ungainly, as everyone knows.

Across the wild Australian plain
The kangaroo hops with might and main,
But all this bounding up and down
Looks odd when done by gals in town.

*Two Horses¹*

This handsome horse, as you can see
Has learned fine posture to a "T"
His head well up, his chin well in,
He'd enter any race and win.

But see this dreary drooping nag,
Whose bones and joints and muscles sag;
The first would run a race and win it;
The other'd make an inch a minute!

*Pete and Paul²*

Sometimes one must be very smart
To tell a pair of twins apart.
It is not so with Pete and Paul—
One's slumped down short, one's straight and tall.
Paul's chest so broad, holds much fresh air,
So his cheeks are red and his skin is fair;
Pete's chest sinks in, and he's white and sallow.
His face looks like a sick marshmallow.

¹ Thomas, Leah C. *Body Mechanics and Health*. Houghton Mifflin and Company. New York, 1929, p. 139. (Reprinted by permission of the author.)

² *Ibid.*, p. 141. (Reprinted with slight modification by permission of the author.)

*Against the Door*¹

Did you ever stand against a door,
Your feet placed firmly on the floor?
If you would be full of graces
Touch the door in these four places:
Head, shoulder, hip, heel—
How tall you'll look, how good you'll feel.
(See *Wall Correction* p. 90.)

*Young Tommy*²

Young Tommy let his shoulders sag,
And held his poor chest in,
And walked with eyes down, until he looked
Like any crooked pin.
Like any crooked pin you see
Too doubled up for use was he.

With head hung forward, chest-bone flat,
To school he slowly went,
His tummy like a lump of fat,
His backbone sadly bent.
And slow at lessons too was he,
As every sloucher's bound to be.

A camel has to have a hump,
Poor beast, it simply grew so;
A hippo has to waddle—but
No child need ever do so.
When Tommy tried to hold up straight,
Alas, alack, he tried too late—

He couldn't get his knots untied.
We ought to run like rabbits
From slouchy ways and crouchy ways,
And humpy, slumpy habits.
Or else like Tom, some luckless day
We'll find we've simply grown that way!

¹ Op. cit., p. 141. (Reprinted with slight modification by permission of the author.)

² Thomas, Leah C. *Body Mechanics and Health*. Houghton Mifflin and Company, New York, 1929, p. 148. (Reprinted by permission of the author.)

POSTURE SONGS

1. *Pussy Willow*. See p. 106.
2. *Perfect Posture*. Sing this as a four part round to the tune of "Are You Sleeping, Brother John."

"Perfect posture, perfect posture,
Do not slump, do not slump.
You must grow up handsome. you must grow up
handsome,
Hide that hump, hide that hump."

3. *Camel Song*. Sing this to the tune of "When You Wore a Tulip."

"Are you a camel, oh, are you a camel.
And say, do you have a hump, hump, hump?
Do you sit at the table as straight as you're able,
Or do you sit there and slump, slump, slump?
Are you a flopper, a flip floppy flopper
Without any starch in your spine?
If you are a flopper, a flip, floppy flopper
Please go somewhere else to recline."

(Children may act out the various ideas of the songs.)

CHAPTER SEVENTEEN

MOTIVATION THROUGH INTERCLASS AND SCHOOL-WIDE ACTIVITIES

Interest and enthusiasm for any cause mounts as the idea is taken up by more groups. A posture unit in any one classroom will be more effective if posture units are also being taught in other classrooms, especially if some of the same activities are being used. One grade may show another grade what it has been doing, thus provoking a healthy and productive exchange of ideas, which in turn leads to greater interest. Later, all grades of one school or several schools may want to work together on the posture project. The following devices are particularly effective.

1. *Posture Tags.* Tags may be awarded for good posture maintained during certain definite activities. Later, award them any time during the school day. Specific occasions for judging posture might include: writing at desks; standing to read; both sitting and standing during an entire reading class; standing during the salute to the flag; singing an anthem; singing and marching around the room; in hallways or assembly periods.

In the lower grades award tags during the morning hours so that the children may wear them all day long and parade them before the parents at lunchtime. Have the children return the tags at the end of the day. The children then must strive on succeeding days to merit the tag again. For use on a school wide basis, designate one day a week as "Tag Day." Award tags to the row of children with the best postures during an activity, or to the one child who is outstanding. Give tags sometimes to children who are trying to improve, even though their achievement is not outstanding.

In the upper elementary grades and in junior and senior high school, pupils may be trained to judge posture and award tags. Be sure that the pupils permitted to judge are well qualified, both as to posture knowledge and general tact.

Tags may be made by mimeographing on heavy construction paper one of the illustrations in this book or an illustration made by a pupil. One sheet of paper can provide twelve to sixteen or more tags, by reproducing the illustration that many times on the same stencil. The children then cut out the tags, attach strings and reenforce the holes with gummed rings, if the tags are to be used several times.

2. *Posture Contest.* Conduct contests in each room in a school, with the room winners entering an elimination contest. Place more emphasis on the participation of all pupils in each room than on coaching the winners of each room preparatory to further competition. Some steps to encourage entire class participation are:

(a) A pupil committee representing several grades decides on a course or routine over which all pupils will be judged. For suggestions see p. 49ff and p. 100 (Nos. 4 and 5).

(b) For two weeks in physical education classes all pupils practice the course decided upon by the committee.

(c) Each grade is subdivided into teams of approximately five members. Each team performs the course while other teams observe and select all really good performances. The teacher adds his opinion only where he feels that the class has made poor choices.

(d) The winners on each team act as coaches for the rest of their team during further class practice. They themselves practice for the interclass competition on their own time.

(e) Interclass competition may be held during an assembly program with outside judges invited to participate. If possible, confine competition to children of approximately the same age, rather than having a six-year-old compete against a twelve-year-old. Select as many winners as the demonstrated

skills warrant, award badges or ribbons to the winners, and give local publicity to the whole program.

3. *Foot Contest.* This may be organized and conducted in much the same way as the posture contest. Points in judging should include general alignment of feet and legs, correct use in various forms of locomotion, absence of deformity of toes, calluses and corns. (Height of the arch should not be stressed, as it is known to be relatively immaterial to the strength and service of the feet.

4. *Poster Exhibit.* This exhibit could well be the culmination of both a posture unit and an art unit on figure drawing and lettering. There should be almost 100% entries from each class. Each pupil might vote for the two or three posters he thinks best, with the five or more posters receiving the highest number of votes being entered in interclass competition. Wherever possible judge posters in separate groups including grades 1-3, 4-6, 7-9, and 10-12. Display outstanding posters in local store windows or use them as a traveling exhibit to other schools.

5. *Posture Mirror.* Install a full length mirror in a hallway. Place above it such signs as "Are You Proud of Your Posture?" or "Look at Your Posture—Others Do," or suggestive illustrations. Change these captions frequently.

6. *Foot Prints.* Have the pupils whitewash foot prints in good and poor angulation on the sidewalks around the school.

7. *English Composition on Posture Themes.* Use the most effective stories, skits, plays, poems, jingles, charades or songs at assembly programs, or parent-teacher meetings. For suggestions see p. 150 and the appendix.

8. *Posture Movies.* Available movies on posture and feet are appraised in Chapter 19. Some of these movies are satisfactory for assembly programs. To get most value from the movie, however, discuss it and reshow it in smaller groups.

9. *Assembly Programs.* Many of the above activities might

be co-ordinated into an assembly program devoted exclusively to the subject of posture. Invite outside speakers. Particularly effective would be to have a buyer of girls' clothing discuss the part posture plays in wearing clothes well, or a coach discuss the part of sound body mechanics in the training of athletes. Take care that the views expressed by these speakers are based on accepted fact.

10. *Posture Week*. Culminate posture units in various classrooms in a school-wide or city-wide posture week, featuring assembly programs, parent-teacher meetings, exhibits, guest speakers, and pupils addressing civic groups. Hold the finals of a posture contest during this week. This timing of a posture week is particularly suited to the elementary grades where the children need the knowledge and skills developed through a direct teaching unit in order to profit most from the special features. In the junior and senior high schools, where further posture improvement should be primarily a matter of motivation, a posture week might precede the incidental review type of teaching carried on in the health and physical education classes.

The second week of May is often designated as National Posture Week, with the Samuel Higby Camp Institute, Empire State Building, New York 1, N. Y., as the main sponsor. The posters, radio publicity and other materials distributed by this company are suitable for school use.

POSTURE DRAMATIZATIONS

The following dramatizations are included in the appendix;

1. *Saluting the Flag*.—This brief playlet for Grades 1-4 may also be used as a paper and pencil test of posture knowledge.

2. *Ourselves as Others See Us*.—This pantomime with the script presented by a reader, is suited to Grades 5-9. It may also be given as a shadow play.

3. *Perfect Posture*.—This pantomime or shadow play with the script given by a reader is suited to Grades 3-6.

4. *Radio Broadcast Script*.—This script is well adapted for a thirty minute radio broadcast. For a fifteen minute broadcast some cutting will be necessary. It is best suited to Grades 5-9.

5. *The Exercise Way*.—This skit is suitable for adolescent girls and women's audiences only.

CHAPTER EIGHTEEN

ACTIVITIES IN THE CORRECTIVE PROGRAM

This book is concerned primarily with the development of a broad preventive posture emphasis for all pupils. The value of "corrective" activities in fostering normal physical development and preventing deformity has long been advocated by authorities in medical gymnastics, physical therapy and corrective physical education. Many of the practical group techniques offered here for use in the physical education program are essentially adaptations of corrective exercises.

In addition to a preventive program, some communities will wish to provide a corrective program to care for pupils who develop gross body mechanics defects in spite of the preventive emphasis of the health and physical education curricula. Such a program is also valuable for below-par pupils who show malnutrition, post-operative or convalescent fatigue, and other functional handicaps. A satisfactory program of this type requires physical education personnel with graduate training in the field of corrective physical education.

The corrective program requires the advantages and support of medical and orthopedic recommendations. It must operate as an integrated part of the school health program for improvement of the home environment, including the development of parental understanding of special problems, improved personal health practices at home and in school, and sympathetic adaptation of the school environment where necessary to provide a really health promoting atmosphere for the child. These adaptations include special provision for rest, improved nutrition, mental hygiene and modification of

the pupil's study load. The school administration must allow flexibility in pupils' schedules so that these adaptations may be carried out. Where the corrective physical education service is staffed with well trained teachers and is a partner in a good school health program it will yield gratifying results. Where the school administration does not provide these essentials it is doubtful whether corrective exercises alone will be very effective.

The untrained teacher should not voluntarily undertake or be required to organize a corrective program. He could hardly expect to present a very effective program and he runs the risk of antagonizing local health authorities. Without entering this field the teacher responsible for the general health and physical education program has a very important part to play in a preventive posture and body mechanics emphasis for all his pupils.

The following reclassification of certain of the activities of Chapters 9 through 16 as corrective exercises for specific body mechanics faults is provided now as an aid to the corrective physical education teacher or supervisor who is responsible for integrating the preventive and corrective programs to provide for the needs of specially selected children. In addition to the exercises listed below under the headings of general slump, flat chest, relaxed abdomen, hollow back, weak feet and pronation, and lateral curvature, the corrective program should also make use of the activities in Chapter 9 to teach fundamental skills with carry-over to daily activity.

GENERAL SLUMP

This non-technical term is used to designate the pupils who show all of the following conditions to some degree: forward head, round shoulders, round upper back, flat chest and relaxed abdomen. Suitable exercises: (1) encourage general elevation of the body, (2) increase strength and tone of the back trunk muscles, and/or (3) increase strength and tone of

the muscles which hold back the shoulder blades. These values accrue only where the exercises are performed in good form a progressively greater number of times.

Scissors	p. 102
Shoulder Rotation	p. 117
Elbow Lift	p. 120
Breaking Chains	p. 126
Stationary Hang	p. 137
Pull-Ups	p. 138

The following exercises, also valuable for improving general slump, should be done by those children with markedly hollow backs (lumbar lordosis) only if they can voluntarily control their pelvic tilt and maintain a good position of the lower back during the exercise.

Airplane	p. 101
Seal	p. 103
Face Lift	p. 120
Spine Stretching	p. 124
Chest and Back Stretcher	p. 124
Swimming	p. 126
Trunk Bending	p. 127

FLAT CHEST

When a child stands as well as he can and the resulting posture is good except that his chest remains flat, special exercises directed toward chest development will help. These exercises are designed to (1) increase chest expansion and chest flexibility, and/or to (b) strengthen the chest and neck muscles.

1. *Deep Breathing.* The child lies on his back, takes as deep a breath as he can keeping his abdominal wall in. He then breathes out slowly keeping his chest wall up as long as he can.

2. *Modified Mosher*. The child lies on his back with his hands on his lower abdomen. He (1) bulges his abdomen out by using his diaphragm, not by taking a deep breath or by arching his back, (2) draws in his abdomen strongly and takes a deep breath keeping his abdominal wall in, (3) massages his abdomen upward toward his chest using both hands, and (4) relaxes and exhales.

3. *Wall Pushaway*. The child stands facing a wall with his feet about eighteen inches away and turned slightly pigeon-toed. He leans forward toward the wall catching his body weight on his hands and bends his elbows till his chest almost touches the wall. He then gives a vigorous push away from the wall and lets his arms fall to his sides.

Additional exercises previously described include:

Push-Ups p. 120

Deep Breathing p. 122

Squat and Breathe p. 125

Climbing and Hanging Activities p. 137ff.

RELAXED ABDOMEN

This defect should not be confused with the large abdomen common in very small children. When a sagging abdomen is the most noticeable defect, the following activities will increase strength and tone in the abdominal wall. Exercises are listed in the approximate order of their difficulty. Start with one of the easier ones, building up to the more difficult ones as rapidly as the child is able to do them *well*.

Modified Mosher p. 166

Bicycle Rider p. 103

Abdominal Twist p. 117

Leg Lift p. 120

Stationary Hang (c) (d) (e) p. 137

Airplane on Back p. 119

Sit and Reach p. 119

HOLLOW BACK

When a hollow back (lumbar lordosis) is the most noticeable defect, the abdominal wall is usually prominent or relaxed. The exercises under *Relaxed Abdomen* above are therefore valuable, if the child can control his waistline in good position while he does the exercise. Additional exercises teach this waistline and pelvic control and increase flexibility of the lower back:

1. *Sliding Up the Wall*. The child stands with his back against the wall. He bends his knees sliding halfway down the wall or until his waistline touches. He then slowly straightens his knees, keeping his waistline touching the wall as long as he can.

2. *Back Stretcher*. (Primarily for those with stiffness of the lower back.) The child lies on his back with his knees bent, his feet flat on the floor, and his arms relaxed overhead. He swings both knees overhead and tries to touch them to the floor on either side of his ears. He holds this curled position five to ten seconds allowing his back to be stretched through the waistline by the weight of his legs, then uncurls to the starting position.

See also: *Chest and Back Stretching* p. 114.

WEAK FEET AND PRONATION

When the feet show marked prominence of the inner ankle bones and a toeing out of the forepart of the feet, corrective foot exercises are desirable. They are generally of two types—those which (1) teach improved habits of standing and walking (p. 91), and (2) strengthen muscles of the inner border of the foot (p. 146). Occasionally specific stretching exercises may be prescribed by the orthopedist. In addition to exercises the child should have satisfactory footwear (p. 142), which the physician or orthopedist will in many cases order built up at the heel and/or sole.

LATERAL CURVATURE

The prescription of corrective exercises for lateral curvature of the spine (scoliosis) is not pertinent to this text. The physical education teacher will do his pupils a great service, especially during adolescent years, if he will check their backs frequently enough to observe early signs of any developing asymmetry, especially rotation of the spine (p. 45). Refer the child for orthopedic examination if rotation is evident.

Three types of exercise may be given in mild and early cases of lateral asymmetry. They should not be considered a substitute for the physician's orthopedic examination and his recommended treatment. These exercises (1) encourage improvement of general posture including symmetrical carriage of hips and shoulders as seen when facing a mirror (Chapter 9A), (2) teach control of the pelvis and lower back, and (3) increase strength and tone of the back and abdominal muscles. These exercises have been summarized in this chapter under *General Slump*, *Relaxed Abdomen* and *Hollow Back*.

MENSTRUAL DISCOMFORT (Dysmenorrhea)

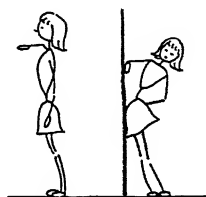
Though by no means exclusively a complaint of postural origin, menstrual pain occurs very frequently among adolescent girls. Frequent causes of dysmenorrhea include faulty general health habits, fatigue, insufficient exercise, poor posture and nervous tension. Where a girl's personal history and physical examination record suggest a general below-par condition, health education guidance and participation in the normal activity program may profitably be supplemented by exercises which (1) improve posture, (2) improve abdominal strength and pelvic circulation, and (3) teach better relaxation. Exercises for these purposes have already been suggested. Two additional ones follow:

1. *Knee Chest Position*. The pupil crouches on hands and knees, then bends her arms so that her chest touches the floor while her hips remain high over her knees. Her head

may be turned sideward and her arms placed in any comfortable position. She holds this inverted position for five minutes



or longer, then relaxes by sliding into the horizontal position. This exercise is effective when done in bed before falling asleep.



2. *Billig Exercise*.¹ The pupil stands side to a wall, feet together and eighteen inches from the wall. She places her near elbow, forearm and palm on the wall with her elbow in line with her shoulders. She places her outer hand slightly behind and low on her outer hip. She contracts her abdominal and hip muscles to flatten her lower back and tip her pelvis up in front, then shifts her hips slightly forward and in toward the wall as far as possible giving an extra stretch from her outer hand. She should hold as much stretch as possible even to the point of pain. This stretch should be done three times to each side, morning, noon, and night every day.

RELAXATION

Teachers frequently recognize pupils who show a high degree of tension or inability to relax. This tension quite commonly accompanies early and poorly co-ordinated attempts at conscious posture correction. At every step in the posture program this tendency must be recognized and combated. In most cases the pupils can and will relax the unnecessarily

¹ Dick, A. C. and H. E. Billig, Jr. "Menstrual Exercises." *J. Ind. Med.*, Vol. 12, p. 588. (Sept. 1943.)

involved muscles if the teacher calls attention to their errors in co-ordination and presents elementary relaxation techniques. (Chapter 14)

Where certain children seem quite unable to relax when they make a conscious effort, some individual training in relaxation is needed. The group activities already presented are adaptable to these individual problems. If a child does not show desirable improvement after a period of individual help, he should be referred to a physician. Persistent inability to relax is a condition which has emotional as well as physical aspects, and is a result of the child's total environment. As such, a total approach will be required in difficult cases.

CHAPTER NINETEEN

VISUAL AIDS AND SUPPLEMENTARY MATERIAL

In posture teaching one picture is certainly worth a thousand words. Teachers should make every effort to obtain a varied and extensive collection of visual aids suited to the ages of their pupils. Five types and sources of supplementary aids—posters, films, pamphlets, books, and posture references in health education texts—are evaluated briefly.

POSTERS

Three types of posters are valuable in teaching posture, those offered by commercial organizations, those prepared by educational and welfare agencies, and those made locally by teachers and pupils.

Commercial Posters. Many commercial posters are attractive, present facts accurately and are valuable for school teaching. Be sure that the implications of any advertising on the posters are desirable or at least harmless in the school situation. Most recent commercial posters contain little or no direct advertising, and are quite satisfactory in this respect. Discard any posters which do not meet this requirement. Teachers may obtain satisfactory posters from the following commercial sources:

1. American Seating Company, Grand Rapids, Michigan.
2. Samuel Higby Camp Institute for Better Posture, Empire State Building, New York 1, N. Y.
3. National Dairy Council, 111 N. Canal Street, Chicago 6, Ill. (30¢)

4. National Foot Health Council, Phoenix Building, Rockland, Mass.

Posters from Educational and Welfare Organizations. Posters distributed at cost by various educational and welfare agencies are at present primarily of the factual and purely instructional type, rather than of the interest motivating type. A teacher should have available at least one of this type of poster suited to his particular school grades.

1. Department of Physical Education, Harvard University, 15 Holyoke St., Cambridge, Mass. (15¢) Suited to adolescent boys and men.
2. Children's Bureau, U. S. Department of Labor, Washington, D.C. (\$1.00) A set of six posters suited to elementary school boys and girls. Distinguishes between thin, intermediate and stocky body builds.

Posters Made Locally by Pupils and Teachers. Posters made by pupils are extremely valuable. Pupils need to know their subject before they can design posters about it, thus they are motivated to investigate the field. Out of each class poster project some posters will be good enough to be used for exhibit and instruction purposes. Pupil-made posters are valuable not only because of the ideas on the posters, but also because they suggest personal local conviction. Where art teachers or supervisors are available in the school their assistance should be sought. The school art department may wish to sponsor a posture poster competition with the winning posters being donated to the health and physical education department. The activities referred to below offer many suggestions for the development of posters.

Line Test p. 89

Mirror Correction p. 90

Balance Board p. 98

Posture Style Course p. 100

Foot and Shoe Tracings p. 145

VISUAL AIDS AND SUPPLEMENTARY MATERIAL

Tracing High and Low Heeled Shoes p. 145

Shoe Collection p. 145

Foot Prints p. 145

Effects of Painful Feet p. 146

Straight Man, Crooked Man p. 147

Good Mechanics All About Us p. 147

Posture Checker p. 148

Posture Privileges p. 149

Posture for Speakers and Actors p. 149

Posture Contest p. 159

FILMS

The variety and quality of films available and suited to posture teaching is far from satisfactory. The better films are evaluated briefly below.

1. *Posture Habits*. Coronet Instructional Films, Coronet Building, Chicago 1, Ill. Purchase price \$45 for black and white, \$90 for color. 16 mm. sound. Contact Coronet for possible rental sources. An excellent film for elementary grades and for parent teacher groups. Makes posture seem worthwhile and fun to work at.

2. *Posture for Poise*. (U 907-908) Department of Visual Education, University of Iowa, Iowa City, Iowa. 16mm. silent. Suited to junior and senior high school girls and young women. Excellent material, technical presentation fair.

3. *From Toe to Tip*. (General Pictures Products, Inc., 621 6th Ave., Des Moines, Iowa.) 16mm. sound. Suited to grades 5-6, junior high school girls, and adult groups. A good analysis of posture, and posture exercises; technical presentation fair.

4. *Posture and Exercise*. (Encyclopaedia Britannica Films) 16 mm. sound. Suited to senior high school and college physiology classes, and adult groups. Excellent material on the physiology of exercise and its relation to posture, tech-

nical presentation good. Order through state educational film rental libraries.

5. *Cadet Champions* (E11-30) and *Navy Champions* (E11-32) produced by *Columbia*, and *Gymnastics* (E11-31) produced by Metro-Goldwyn-Mayer. Suited to junior and senior high school boys primarily. Order through Teaching Films Trustees, 25 West 43rd Street, New York, N. Y.

6. *Posture*. 16mm. silent. May be rented through Children's Bureau, Department of Labor, Washington, D. C. or through many state visual education rental facilities. An older film with worthwhile information. Technical presentation only fair.

7. *The Feet*. See comments for *Posture* above.

PAMPHLETS

The following pamphlets may be obtained free of charge unless otherwise indicated.

Good Posture in the Little Child. No. 219. (5¢) Valuable to parents as well as teachers.

Posture Clinics. No. 164. (15¢) For elementary school programs.

Posture Exercises. No. 165. (10¢) For elementary school programs.

Order through Superintendent of Documents, U. S. Printing Office, Washington, D. C.

Posture from the Ground Up. For older children and adults.

Light on Your Feet. For older children and adults.

Metropolitan Life Insurance Company, 1 Madison Ave., New York, N. Y.

How to Improve Your Posture. For junior and senior high school girls.

Blueprint for Body Balance. For senior high school boys and girls and adults.

The Human Back. For teachers and parents.

Samuel Higby Camp Company, Empire State Building, New York 1, N. Y.

Straight from the Start. Bureau of Maternal and Child Health, Dept. of Public Health, State of California. Room 739, 760 Market Street, San Francisco 2, Cal. Excellent for senior high school courses in child care and for parents of pre-school children.

Posture. Guide for Public Health Nurses No. 5, Community Service Society, Department of Educational Nursing, 105 East 22nd Street, New York 10, N. Y. For adults.

Frost, Loraine. *Posture and Body Mechanics*. Bulletin No. 580, State University of Iowa, Iowa City, Iowa. 1944. (10¢) For teachers.

Lane, Janet. *Sitting Pretty*. John Wiley and Sons, Inc., New York, 1939. (25¢) Suited to senior high school girls and women.

Physical Training (WAC Field Manual FM 35-20) War Dept., 1943. (\$1.00) Order through Superintendent of Documents, U. S. Printing Office, Washington, D. C. An excellent presentation appealing to senior high school girls and young women's clubs.

Physical Fitness and Athletic Footwear. U. S. Rubber Company, 1230 6th Ave., New York, N. Y. Primarily devoted to feet and gymnasium footwear. Suited to senior high school boys and men.

Steinhaus, A. R. et al. *How to Keep Fit*. (25¢) Consolidated Book Publishers, Inc. Chicago, Illinois. Suited to junior and senior high school boys and girls and adults.

Work Made Easier. Circular 365, University of Wisconsin Agricultural Extension Service, Madison, Wisconsin. Suited to junior and senior high school girls and adults. (Many other state university extension services have similar pamphlets available.)

TEXTS ON CORRECTIVE PHYSICAL EDUCATION

Rathbone, Josephine L. *Corrective Physical Education*. W. B. Saunders Company, Philadelphia, 1944. A detailed text for physical education teachers, including a chapter of interest to school administrators and parent groups.

Stafford, George T. *Preventive and Corrective Physical Education*. A. S. Barnes and Company, New York, 1928. A detailed text for physical education teachers, especially men.

Stafford, George T. *Exercises During Convalescence*. A. S. Barnes and Company, New York, 1947. An inventory of exercises for selected rehabilitation problems.

Goldthwaite, J. E., L. T. Brown, L. T. Swaim, and J. G. Kuhns. *Body Mechanics in Health and Disease*. J. B. Lippincott Company. Philadelphia, 1941. A detailed analysis of body mechanics stressing medical diagnostic aspects of the problem.

BOOKS FOR TEACHERS AND LAYMEN

Jacobsen, Edmund. *You Must Relax*. McGraw-Hill Book Company, New York, 1934.

Lane, Janet. *Your Carriage, Madam!* John Wiley and Sons, Inc., New York, 1947.

Nye, Dorothy. *New Bodies for Old*. Funk and Wagnalls Company, New York, 1937.

Rathbone, Josephine L. *Relaxation*. Bureau of Publications, Teachers College, Columbia University, New York, 1943.

POSTURE REFERENCES IN HEALTH EDUCATION TEXTBOOKS

The following elementary and secondary school health education textbooks contain valuable posture and body mechanics emphases.

Wilson, C. C., C. B. Baker, P. J. Abbott and J. C. Almack. *The American Health Series*. Bobbs-Merrill Company, Indianapolis, 1948. (The 1942 edition contains essentially the same references.)

"Everyday Health," Book 3. A good discussion of school furniture, standing posture, exercises and selection of shoes. (p. 9)

"Health at Home and School," Book 4. A brief discussion of adjusting school furniture. (p. 16)

"Growing Healthfully," Book 6. A good presentation of causes of posture defects, values of rest, and training rules. (p. 211)

"Life and Health," the secondary school volume. A section on benefits of good posture. (p. 185)

Burkard, W. E., R. L. Chambers and F. W. Maroney. *Health-Happiness-Success Series*. Lyons and Carnahan, New York, 1946.

"Keeping Fit for Fun," Grade 4. An effective discussion of factors which improve posture. (p. 123)

"Your Health and Happiness," Grade 5. Criteria for good standing and sitting. (p. 27)

"Health for Young Americans," Grade 7. Important aspects of posture. (p. 151)

Andress, J. Mace, I. H. Goldberger, et al. *Safe and Healthy Living Series*. Ginn and Company, Boston, 1945.

"The Health Parade," Book II. A section on walking, sitting and standing habits. (p. 149)

"Growing Big and Strong," Book III. A section on building good bodies (p. 119), and excellent material on good body positions. (p. 145)

"Doing Your Best For Health," Book V. A good discussion of making the most of bones and muscles. (p. 146)

"Helping the Body in Its Work," Book VII. A discussion of the anatomy of bones and muscles. (p. 236)

Brownell, C. L. and J. F. Williams. *Health of Our Nation Series*. American Book Company, New York, 1942.

"Fit and Ready," Book 3. The story of *The Crooked Tree*. (p. 73)

"Hale and Hearty," Book 5. A brief discussion of good and poor posture and foot mechanics. (p. 77)

"Active and Alert," Book 6. A brief section on keeping the framework straight. (p. 53)

"Living and Doing," Book 7. The values of good posture. (p. 3)

"Training for Living," Book 8. An excellent section on conditioning for physical fitness. (p. 27)

"Health Problems," the secondary school volume. An entire chapter with excellent materials on many aspects of posture development. (p. 45)

Charters, W. W., Dean F. Smiley and Ruth M. Strang. *Health and Growth Series*. The Macmillan Company, New York, 1941.

"Through the Year," Book 2. A poem "Growing Tall." (p. 25)

"Health Secrets," Book 3. A section on good posture (p. 66), and another on what exercise does. (p. 209)

"Healthful Ways," Book 4. A good factual discussion of posture and feet. (p. 107)

"Let's Be Healthy," Book 5. A good section on posture and feet. (p. 125)

"Habits, Healthful and Safe," Book 6. An excellent discussion of feet and shoes. (p. 178)

Where these recent editions are not available, teachers will find some factual materials presented in older textbooks.

Wood, T. D., A. M. Phelan, M. O. Lerrigo, N. B. Lamkin and T. B. Rice. *Adventures in Living Series*. Thomas Nelson and Sons, New York, 1936.

"Now We Are Growing." A hero type story with a brief posture emphasis. (p. 113)

"Many Ways of Living." A discussion of shoes. (p. 99)

"Blazing the Trail." Brief mention of correct use of the feet. (p. 8)

"How We Live." An elementary discussion of anatomy and

physiology (p. 30), and the factors which influence posture development. (p. 57)

Emerson, C. R. and G. H. Betts. *Habits of Right Living Series*. Bobbs-Merrill Company, Indianapolis, 1934.

"Habits for Health," Book 1. Some facts on posture and posture exercises, adapted to fifth and sixth grade children. (p. 22)

"Living at Our Best," Book 2. A discussion of the anatomy of muscles and joints, adapted to junior high school children. (p. 240)

Turner, C. E. and Grace T. Hallock. *Malden Health Series*. C. D. Heath and Company, New York, 1935.

"The Voyage of Growing Up," Grade 3. A good section on the significance of good posture. (p. 165)

"In Training for Health," Grade 4. A brief section on basic posture facts. (p. 62)

"Health," Grade 5. A section on good sitting and standing. (p. 123)

"Cleanliness and Health," Grades 5 and 6. A section on posture and foot action. (p. 20)

Newmayer, S. W. and E. C. Broome. *The Health and Happiness Series*. The American Book Company, New York, 1928.

"The Way to Keep Well." Sound facts on posture, adapted to upper elementary grades. (p. 182)

"The Human Body and Its Care." Elementary anatomy and physiology of exercise (p. 1), and common facts about posture and its relation to health (p. 63), adapted to upper elementary and junior high school children.

Winslow, C. E. and M. L. Hahn. *The New Healthy Living Series*. Charles E. Merrill Company, New York, 1929.

Book 1. A discussion of posture and exercise, adapted to upper elementary school children. (p. 129)

Book 2. Some facts on posture and the skeleton, adapted to upper elementary and junior high school children. (p. 24)

APPENDIX

The scripts of the following five dramatizations have both motivational and instructional value. All avoid tedious memorization of parts by employing a reader or by using radio broadcast form.

1. *Saluting the Flag*. This brief playlet for Grades 1-4 may also be used as a paper and pencil test of posture knowledge. (below)

2. *Ourselves as Others See Us*. This pantomime with the script presented by a reader, is suited to Grades 5-9. It may also be given as a shadow play. (p. 180)

3. *Perfect Posture*. This pantomime or shadow play with the script given by a reader is suited to Grades 3-6. (p. 189)

4. *Radio Broadcast Script*. This script is adapted for a thirty minute radio broadcast, where it is augmented by the formalities of a school assembly program. For a fifteen minute broadcast some cutting will be necessary. It is best suited to Grades 5-9, but may be used with older groups. (p. 192)

5. *The Exercise Way*. This skit is suitable for adolescent girls and women's audiences only. (p. 206)

SALUTING THE FLAG

(Grades 1-4)

This script may be used as a completion test of posture knowledge for grades 2, 3, and 4, or as a playlet for classroom or assembly programs. In the latter case one pupil is the reader, four children act as the color guard, while the remain-

der act as the audience at the parade, supplying the missing words as a chorus. They may also add appropriate bits of pantomime.

Script.

One day our class went to see a parade. There were soldiers and sailors, officers on horses, and people in shiny bright automobiles. And there was a band. Four of the tallest straightest soldiers the children had ever seen marched in front of the band. The middle two soldiers carried flags. Everyone watching stood tall and proudly as the flags went by. Our class wanted to show how proud we were of our flag and our country. So we stood as well as we could too.

We turned our toes ("straight ahead"). We held our heads as ("high") as we could. We made sure that our backs were ("straight"), our chests ("up") and our tummies ("in"). Our arms hung easily ("at our sides"). The boys took off their ("hats"). Our class looked very proud of the flag. We hope Uncle Sam is proud of us too.

OURSELVES AS OTHERS SEE US

(Grades 5-9)

This may be done as a pantomime, or, where pupils are self-conscious, as a shadow picture play.

CHARACTERS

Reader: A child with a good voice and stage personality.

Characters: All should be able to stand well, and walk well without self-consciousness. They should also be flexible enough to assume the typical poor postures of school children.

Jane—a tall girl who can jitterbug. She should be dressed in a frilly¹ bathing suit over which she wears in

¹ Form fitting bathing suits should be avoided in a shadow play, since they give the impression of nudity.

Act 1—a sloppy sweater and skirt, bobby socks and shoes

Act 2—latter half—a beach robe or housecoat and bandanna

Act 3—same skirt and a close fitting blouse or sweater, and dress shoes with moderate heels.

Joe—dressed in gym trunks, over which he wears in

Act 1—sloppy school clothes with one trouser leg rolled up

Act 2—latter half—same as in Act 1. Carry a baseball bat for a gun.

Act 3—neat trousers and close fitting sweater, military cap.

Mary Lou—dressed in a bathing suit with short skirt and bow tied around waist, over which she wears in

Act 1—a sloppy sweater and skirt, bobby socks and shoes, carries heavy books

Act 2—skirt, carries a ball

Act 3—skirt and tight fitting blouse or sweater, dress shoes with moderate heels, and carries an imitation microphone which will stand on a table.

Bill—dressed in gym trunks, over which he wears in

Act 1—sloppy school clothes, shirt tails out

Act 2—latter half—conventional street suit and hat, and carries a small doctor's bag with bottles and a spoon in it.

Act 3—same as latter half of Act 2.

Nancy—dressed in frilly bathing suit over which she wears in

Act 1—sloppy school clothes, bobby socks and shoes

Act 2—latter half—skirt and tight fitting blouse or sweater, and high heeled shoes. Carries a large baby doll.

Act 3—same as latter half of Act 2, except low heeled shoes.

PROPERTIES

1. Those carried by the five shadow characters listed above, and provided by the characters themselves.
2. Additional: One school desk and chair
One folding beach chair
One small table
One straight chair

PROLOGUE

Reader—This play is supposed to be funny. We hope you will feel like laughing. But if you do laugh you may miss hearing half of the story. So please just smile to yourselves. Don't laugh out loud. Then you won't miss the words.

(The gist of this prologue may be repeated between acts if necessary to control laughter from the audience.)

ACT 1—All characters carry themselves in poor posture throughout the act. All enter from left side of stage.

CURTAIN UP OR LIGHTS ON—revealing a school desk at right side of stage, or back from a shadow screen about 18 inches.

Reader—Meet the gang I go around with. They're swell. And they sure do dress! First there's Jane. She's the best jitter-bug in school.

(Jane enters in sloppy school clothes and jitters half way across stage, stops in very poor posture, then jitters off.)

Reader—Mom says it gives her the jitters just to look at Jane even when she is standing still. Then there is Joe. He's keen, and can he play ball!

(Joe enters in sloppy clothes and saunters across stage tossing a baseball up and down in his hands. Stops in middle for a moment, with shoulders round, head forward and arms hanging out in front.)

Reader—When Joe comes over to our house Dad says he looks like a gorilla. And then there's Mary Lou. Gee,

she's bright. You should read the swell stories and poems she writes in English class. She's always carrying a big load of books, and has her nose stuck in one of them.

(Mary Lou walks across stage with load of books pulling one side lower, and her nose stuck in book in other hand. Stops in middle of stage turning back to screen to show lopsidedness, then goes on across stage and off.)

Reader—My folks like Mary Lou too. But when my Uncle John, he's a doctor you know, sees her he just grunts, and talks something about a sound mind in a sound body. Bill is new in our gang. He's fun, but lots of the time he just sits around looking out of the window, chewing his pencil and dreaming.

(Bill slouches across stage, slumps into school chair, head on elbow and chews his pencil. Gets up and lounges off.)

Reader—Nancy's a good egg too. She's smart! She makes her own clothes and they sure are knockout looking.

(Nancy lounges across and slumps into chair. Takes a few stitches in some sewing, picks herself up and slumps off.)

Reader—Well, that's the gang. We have some swell times together.

(The gang slumps across the stage from right to left in lock step, one hand on shoulder of person in front.)

CURTAIN DOWN OR LIGHTS OFF—remove school chair and desk. Place a folding beach chair in same place.

ACT 2—All characters carry themselves poorly through the act.

Reader—Our gang stuck together all last summer. Lots of times we went swimming together. Half of the time though we just played around the beach. Jane had the cutest new bathing suit with ruffles on it. Mary Lou's was the halter kind.

CURTAIN UP OR LIGHTS ON—Jane and Mary Lou enter in profile, slumped. One carries a beach ball which she hands to the other, who bounces it as they walk off.

Reader—Lots of times Joe and Bill practiced for fall football. They both want to be on the team.

(Bill slouches in with football. Passes ball to Joe, who is off stage on the right. Joe enters carrying the ball. They stand in profile talking to each other. Exit to left.)

Reader—Sometimes down at the beach we really got serious. We'd sit around and talk a lot.

(Mary Lou flops in beach chair. Bill stands back to screen with one hip stuck way out. Joe and Nancy stand in profile one with hand on other's shoulder. Jane sits on ground knees drawn up, elbows on knees and chin in hands. Gradually becomes motionless.)

Reader—Often we talked about what we wanted to do when we got older.

CURTAIN DOWN OR LIGHTS OUT—clear stage entirely.

Reader—Jitterbug Jane says she wants to dance forever. Make her living teaching dancing, she means. Only when she gets older she says it will be the smooth kind of dancing, like they teach in big studios. Jane used to show us how she would do it. She'd rig up her beach coat like a slinky evening dress, and make herself an up-sweep hair do, and just go to town on it.

CURTAIN UP OR LIGHTS ON—Jane in beach robe and scarf holding her hair up does slow dance step across stage with imaginary partner. Posture with hips stuck out in back, shoulders humped and head stuck out in front.) Exit to right.

Reader—Joe always said he wanted to go to West Point. Then he'd show us what dress parade at the United States Military Academy looked like.

(Joe in sloppy shirt, one trouser leg rolled up, slouches across stage with baseball bat on shoulder like a gun,

stops in center of stage, lowers bat to ground, shoulders it again, and slumps off right, with heavy tread.)

Reader—Mary Lou used to say she'd really make something of her writing. She'd write things for the radio, or maybe be a commentator. Mary Lou says that when she's grown up everyone will have television and she'll breeze up to the microphone like this:

(Mary Lou in skirt and tight fitting blouse minces to middle of stage. She has a paper in one hand and holds her other fist up like a microphone and talks into it. She drops the paper and flustered picks it up, by sticking her hips out behind her as she leans down. She walks off stage and drops the paper again on the way.)

Reader—Bill wants to be a doctor. I guess he'd make a good doctor because he's smart enough. But he never looked very convincing when he used to show us his bedside manner.

(Bill in street suit and hat and carrying a small case enters hesitatingly, crosses to center, sets down bag, scratches his head and shakes it. Pours out some medicine with a shaking hand and pours it down an imaginary throat. Fumbles some more and slumps off.)

Reader—Bill looked sort of scared. Seems to me he'd scare his patients too. Now Nancy says her ambition is to get married and have lots of babies, well five anyway. And she's going to raise them right. They'll be healthy and happy. And they'll learn to be helpful around the house. She wouldn't spoil them every time they start to cry.

(Nancy enters slowly as though tired. She has a large baby doll held on her chest with her back swayed badly and her head forward. She holds it up, then sets it on the floor by bending from the hips with the knees straight. She gets back up straight by pushing on one knee. With her other hand she rubs her back.)

Reader—If she picks up the baby that way often she really

will have a backache, and a cranky disposition when her husband comes home at night. Well, that's the gang, and that's what they want to do when they grow up.

ACT 3—All characters carry themselves as well as possible through this act without being stiff. All enter from the left and exit to the left on their cues.

Reader—Time marches on! Ten long years of it. Let's take a look into the future. I wonder where the gang is today. No one has heard from Jane since those days when she said she wanted to be a dancing teacher. She moved out of town after that year. Say, there she is now.

(Jane in close fitting blouse and skirt and moderate heels goes slowly through some dance steps with an imaginary partner. She carries herself well and moves gracefully.)

Reader—Say, she's all right. Looks a lot better than when she showed us on the beach that summer. I wouldn't mind learning the latest steps from her myself.

Let's find Joe. Oh, there he is. He did go to West Point. And now it is graduation day. He's getting his gold bars pinned on him.

(Joe dressed in neat trousers and tight fitting sweater and military cap marches in smartly to far edge of stage and halts, and salutes. Arm reaches in and pins bars on each shoulder. Joe salutes again, about faces, and marches off to left.

CURTAIN DOWN OR LIGHTS OFF—Move in a table with a microphone and chair.

CURTAIN UP OR LIGHTS ON—Stage with a table, microphone and chair.

Reader—Where is Mary Lou? Did she get into radio? She certainly did. And because there will be television in 10 years in every home, all we have to do is to turn on the radio to see Mary Lou. It's time for her program now.

(Mary Lou enters in skirt and tight fitting blouse and moderate heels. Moves smoothly to the table, sits down

and begins to talk into microphone. Rises gracefully and walks off to the left.)

Reader—Wonder what happened to Bill. He must have become a doctor because it looks like a patient coming to see him right now.

(Jane as a patient enters from right side dejectedly and sits down in a chair, holding head in hands. Bill enters, removes his hat, walks confidently to table, puts down bag and shakes patient's hand. Takes her pulse while watching his watch. Gives patient some pills. Patient straightens up, thanks doctor by shaking hands and walks off right. Doctor picks up bag and walks off left.)

Reader—Well, it looks as though Nancy had her wish too. Looking ten years ahead I see that she has at least one of those five children. She doesn't look as though the housework got her down any. She's as happy and cheerful as can be, and so's the baby.

(Nancy carries baby over one shoulder and enters briskly, carries baby to table, bends knees slightly as she lowers baby to table and arranges its clothes. Bends knees again as she lifts baby to her shoulder. Walks to center of stage, squats easily as she sets the baby in the middle of the floor. She exits left blowing baby a kiss.)

CURTAIN DOWN OR LIGHTS OUT—clear the stage.

Reader—Well, that's the gang again, ten years from now. They've changed a lot, haven't they? For the better, don't you think? Jane and Mary Lou would never have gotten their jobs if they walked up to an employer the way they used to.

CURTAIN UP OR LIGHTS ON

(Jane and Mary Lou slump across stage from left to right and exit.)

Reader—And who wants a soldier who looks like this?

(Joe slumps across stage with rifle on shoulder and exits right.)

Reader—I'd be afraid to take the medicine from him.

(Bill shuffles hesitatingly across and exits right.)

Reader—And Nancy has a big job on her hands. It could make her dead tired at night and aching in every joint.

(Nancy staggers across stage with the baby, mops her brow, and rubs her lame back.)

Reader—But it is the career woman who enters an office like this who gets the job.

(Jane and Mary Lou walk back from right to left carrying themselves easily erect.)

Reader—And this is the soldier for me.

(Joe marches smartly back from right to left.)

Reader—If I'm sick, send for a cheerful peppy doctor who knows what he is doing.

(Bill crosses stage with doctor's bag. Tips his hat and then goes on.)

Reader—And a housewife must learn to work without straining her joints and muscles. Then she can be happy with her family at the end of the day.

(Nancy returns briskly with the baby over one shoulder. Tosses it easily up overhead. Sets it on floor with squatting motion, picks it up again and walks off briskly.)

Reader—That's all there is to our story, "Ourselves as Others See Us." I think you've already guessed the moral. But we'll sing it for you. You sing too.

All characters, stage hands, etc., sing backstage:

"Perfect posture, perfect posture,

Do not slump, do not slump.

You must grow up handsome, you must
grow up handsome,

Hide that hump, hide that hump."

CURTAIN DOWN OR LIGHTS OUT

THE END

*PERFECT POSTURE*¹

This little sketch may be given as a shadow play, using children behind a sheet, or as a shadowgraph, using miniature cardboard cut-outs. (Fig. 47)

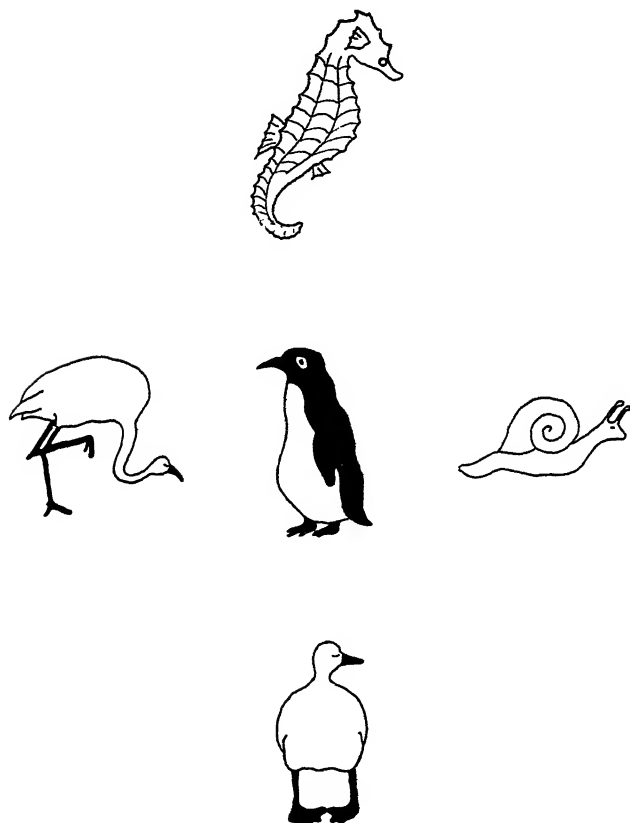


Fig. 43—Cut-outs for playlet *Perfect Posture*.

¹ Peck, Grace. "Perfect Posture." *Journal of Health and Physical Education*, vol. 15, No. 4, p. 222. (April, 1944)

Introduction

Three children enter and stand in front of a closed stage curtain.

First Child: "Posture training is a very important part of physical education. This afternoon we are going to tell you a little about our posture—and yours. All the characters were selected for their habitually good posture."

Second Child: "What is Good Posture?" (A one minute talk, composed by the pupils, follows describing in detail the various mechanics of good posture including good sitting posture.)

Third Child: "Why Have Good Posture?" (A one minute talk, also composed by the pupils, stressing that good posture is less tiring, looks better, is efficient, creates a sense of well being, and improves balance.) They leave stage.

Demonstration

The stage curtains are opened about six feet, revealing a tightly drawn sheet. House lights are turned off and a flood-light, placed at the back center of the stage, is turned on, showing the following scene:

To the right, the shadow profile of a child with a very drooping head, standing motionless close to the sheet and near a table and chair. To the left facing the child, the shadow of a large sea horse which has been cut out of cardboard and pinned to the sheet. A pupil reader slowly and emphatically recites:

"A Sea Horse has to drop his head
For food found on the ocean bed.
But since we eat from off the table
Let's sit as tall as we are able."

At the conclusion of the verse the shadow-child straightens up, walks to the table, sits well for a moment, then gets up and walks off well. The light is snapped off and the table and chair removed.

The second scene is prepared as for the first, using different shadow cut-outs and pupil poses. Each of the following rhymes are recited in turn using the same procedure.

“Humped up shoulders on a Crane
May fill us with delight
But humped up shoulders on a man
Are not a pretty sight.”

“A Snail must crawl upon the ground
And on his back his house is found
But since a house of shell we lack
There’s no excuse for our round back.”

“A Penguin with his rounded front
May be a stylish bird.
But boys and girls, don’t copy him
Or you will be absurd.”

“The baby duck that you see here
Is pigeon-toed, with legs most queer.
We have arms to help us swim
We do not have to copy him.”

The house lights go on, all the children come out in front of the curtain and group around a large posture poster. Standing very well, they sing:

“Perfect Posture, perfect posture
Do not slump, do not slump.
You must grow up handsome, you must grow
up handsome,
Hide that hump, hide that hump!”

If the shadowgraph is used, the stage is made by cutting the bottom from a cardboard box and pasting tissue paper over the opening. The rest of the box is covered with wall paper. It is then propped on the edge of a desk, and a flashlight floodlight used for the light. Cardboard figures, cut with holders are held through a slit in the bottom of the stage near the tissue paper by children crouching behind the desk. There are many variations which are lots of fun.

RADIO BROADCAST SCRIPT

(For upper elementary or Junior High School children)

Participants

Announcer

Local Physical Education Supervisor or Teacher of Body Mechanics Program

Several Pupils:

Alice Aching Feet—

Sidney Slump—

Nancy Nurse—

Donald Draftee—

Winnie Worker—

Freddie Football—

A Parent, preferably an officer in a local women's club,
and well known in the community

Chorus—20-30 pupils

Time. With the addition of the customary formalities of the usual school assembly program this script can be used for a 30 minute broadcast. If used for a 15 minute broadcast considerable cutting will be required.

Announcer— This morning we have on our program (Number) pupils from Grade — of — School and one of their teachers (Name). Also in the studio are (The

Parent and her title) and (Physical Education Teacher). They will tell us about a new program which has been started in the public schools recently. I now turn the microphone over to (Physical Education Teacher).

Physical Education Teacher—Thank you, (Name of -announcer). The boys and girls from _____ School, led by their teacher (Name) will give you a clue to the subject of our program as they sing for you a new song to an old familiar tune. Listen carefully to the words. We call the song "Are you a Camel?"¹

Pupil Chorus (singing) "Are you a camel——"

Physical Education Teacher—Well, are YOU. I mean, are YOU a camel? And say, do YOU have a hump? Are YOU a flopper without any starch in your spine?" I just looked out of the corner of my eye and saw a couple of boys and girls in our studio audience untangle their long legs, pull themselves up off the middle of their spines, sit up a bit straighter, and otherwise look as though they were coming to life. Perhaps these poor souls didn't get enough sleep last night and the night before. Or maybe they didn't get up this morning in time for their bowl of grape-nuts to give them pep and energy for the day. It does take a little more pep to sit well, and to stand well, instead of looking like a "drip," or is it a "droop?" It may be easier to loll on the middle of your starchless spine with your chin on your chest, and your thoughts in the cellar, but where does it get you? People who look like that remind me of a song popular several years ago, "Or would you rather be a fish?" And in this case I mean a jellyfish, just a sad looking lump.

How many times have you said, "If I'd only known what was going to happen, I'd have done it differently?" Well, our (Name) School radio artists are going to look into the future to see if we can find out some of the ways to avoid

¹ See p. 157.

trouble. It is now twenty years later. I'll pretend I'm a cross between the family doctor and a Mr. Anthony—you know who he is, the man on the radio who solves everybody's problems. Our radio actors are now grown-up and are doing all the things which their mothers and dads and aunts and uncles are doing right now. Here comes someone with a problem. How do you do. I didn't catch your name.

Aching Feet: I'm Mrs. Alice Achingfeet. My feet swell up and ache almost every night. I get so tired I lose my temper and scold the children and even quarrel with my husband.

Physical Education Teacher: My dear Mrs. Achingfeet, I should think your feet would hurt. Tell me, do you always walk with your toes turned out the way you just walked into my office? Didn't anyone ever tell you that toeing out when you walk strains your feet with every step you take? People should walk with their toes pointing nearly straight ahead. You're not too old to teach yourself to walk better. Practice walking along a board on the floor. Make the heel and toe of one foot touch the crack between two boards. Then make the heel and toe of the other foot touch a crack on the other side of a center board. No, no, don't walk right on the cracks. Keep one foot on either side of a center board just barely touching the cracks. Now you're toeing much more nearly straight ahead. That's right. Practice it at home till you have forgotten all about toeing out like a duck. Or try walking toward a long mirror where you can watch your feet to make sure that they don't turn way out. Another thing you ought to do is to strengthen the muscles of your feet and arches. Let me show you an exercise. Stand with your feet touching each other, right together, that's it. Now curl your toes under hard, and roll your body weight to the outside of your feet just a little so that your ankles don't touch anymore. That's it. Hold it hard, gripping with your toes. Now relax. Do it again. Curl your toes under, roll your ankles apart, hold it a few

seconds, and now relax. What happens to your arches when you do that?

Achingfeet: Why it lifts them up much higher than they usually are.

Physical Education Teacher—Of course it does. And it makes your feet stronger too. Do this exercise every night and every morning 50 times. It takes only about two minutes and that isn't much time to spend to keep your feet from hurting, is it? And tell me, Mrs. Achingfeet, do you always wear those high heeled patent leather pumps with the toes and heels out?

Achingfeet: They're arch support shoes, it's written right in them, and they cost \$10.00. I should think they'd be good for my feet.

Physical Education Teacher—Any shoe with a three inch high heel is poor for anyone's feet, even if it is called an arch support shoe. See how small the base of the heel is, and how short the part of the shoe which touches the floor is. This small base makes you unsteady when you walk and tires your whole body. This shoe also cramps your toes so that they get corns on them. And it puts most of the weight on the balls of your feet when you stand and walk. That often makes calluses on the balls of the feet. And a shoe like this has to be so tight to stay on that it interferes with your circulation and makes your feet swell at night. We used to laugh at the foolish Chinese women who bound up their feet so that they would stay small. American women who wear high heeled shoes like these all day long aren't much smarter, are they!

Achingfeet—What kind of shoes should I buy?

Physical Education Teacher—Any sensible shoe must be the shape of your feet when you are standing barefoot. It should have a low broad heel and leather, not rubber soles. Rubber heels are all right, but rubber soled shoes lose their shape more quickly and turn up at the toes especially when

they are worn by people with weak feet. Your shoes should fit well under the arch of your foot and around the heel, but should be roomy at the toes. Most people don't need arch support shoes. In fact many people who do not need arch support shoes make their feet weaker by wearing stiff arch support shoes. This is especially true with children. Let children develop strong foot muscles by wearing good shoes which fit well through the arches, but are flexible and roomy at the toes. Then their feet will get good exercise with every step which they take as they walk or play all day long. Oxfords are much better than pumps or loafers. Children should also be taught to walk correctly toeing quite straight ahead, with the body weight to the outside of the feet. If a person wears off the inner border of the sole or heel of his shoes it is a sign of weak feet. A foot examination by a physician or an orthopedic specialist is desirable to locate the cause of the weakness and to determine the best way to make improvement. He will tell you exactly what kind of shoes to buy, and will make sure that they fit you correctly before you wear them. It is easier to prevent foot troubles before your feet begin to hurt. My advice is to learn to walk correctly when you are young, and to wear sensible walking shoes. Girls especially should not wear high heeled shoes until they are fully grown and their foot bones are fully developed and hardened. Otherwise they will deform their feet while their bones are still soft and growing. If they do that they will probably have trouble with their feet the rest of their lives.

Aching feet: Thanks for all your suggestions, (Name). I'm going to follow them, not only for myself but for my children as well. I'm going down town right now to look for some shoes that will really be good for my feet.

Physical Education Teacher—Now here comes someone else with a problem. Just look at him! One glance and you can tell that something is wrong.

Sidney Slump—May I come in? (Drawling and whining voice). I'm Sidney Slump. I have a problem. I can't get a job. I wait for hours in employment offices, and most of the time they never ask me what work I can do. I'm really quite smart you know. I studied all the time I was in school. I never wasted my time on sports and fooling around. Why can't I get a job?

Physical Education Teacher—I'll tell you one reason. You sound tired, and you look tired standing there with your chin on your chest. Any employer who didn't know you would think you were sick, or weak or lazy. Of course he wouldn't be interested in hiring you if he could get anyone else for the job. Didn't anyone ever tell you that people judge your ability by your appearance? Good posture is an important part of wearing your clothes well, and looking neat and capable. Can you stand up straight? No, not that way. Don't try so hard that you lean backward with a hollow in your back. No, not that way either. Now you've just stuck your chest out like a pigeon. Here's one good way to get a good posture. Stand up against that wall over there. Now stretch tall with your shoulders touching. Pull your waistline in so that there is only a little space between your belt and the wall. There, that's better, but let your arms relax. You don't need to get them all stiffened up. You look much better. Now teach yourself to walk that way without being stiff. Swing your arms easily and push the top of your head higher and higher. Now you look much more wide awake. Your clothes don't hang in wrinkles. And you look as though you might do a day's work without collapsing. See if it doesn't help you get a job. Good-bye. Now who's this coming?

Nancy Nurse—I'm Nancy Nurse. I joined the Cadet Nurse Corps when I graduated from high school. That was during the war you know. I did so much want to help to win the war, and do my best for the fellows who were wounded.

I like nursing a lot. But it surely does make me tired. Sometimes my back aches so every time I lean over a bed, that I think I just can't keep going. Why did I ever want to be a nurse?

Physical Education Teacher—No wonder! You walk around all day with a hollow in your back and your waistline stuck way out in front of you. Standing and walking that way strains the joints of your lower back. And then your back starts to hurt. Lifting patients and other heavy things only makes it worse. While you were waiting to see me, you heard me tell Mr. Slump how to make his back straight against the wall. You should learn to do the same thing, and try always to walk with your head high and your tummy in. Practice it while you are working until it gets so easy that you don't have to think about it. I'm sure it will make your back stronger and make it feel better. Then you can work all day without having aches. And be sure that you don't put on a lot of extra weight. Overweight people only add to the strain on their backs and knees and feet as they walk around all day. Who's next with a problem?

Donald Draftee—I'm Donald Draftee. I really don't have a problem right now, not since I was in the service. Maybe I don't belong on this program, but you said that you wanted to help to keep people out of trouble, and I do too. I think the audience would like to hear my experience in the army.

Physical Education Teacher—Then you certainly do belong on this program. Go right ahead.

Donald Draftee—Well, during the war half the fellows who were drafted along with me were in the same fix I was. We passed the medical exams all right, so we thought we were just tops. But when that drill sergeant started with us we thought differently. Nothing we did was right. The sarge said we were a disgrace to the outfit the first day that we got

our uniforms. We didn't stand right. We didn't walk right. We didn't even sit right in our classes or at mess. When other fellows got time off, that sergeant had us standing out in the broiling sun, pulling our stomachs in, and pushing our chests up, and stretching up tall and trying to march in step. It took about two months of extra practice before the sergeant thought we began to look like an army. We learned it all right, but we sure learned it the hard way.

Physical Education Teacher—I guess you mean that if the boys had learned how to carry themselves well before they went into the army, training camp was a lot easier.

Donald Draftee—That's just what I mean. You can't slump and slouch around on duty in the army.

Physical Education Teacher—The army learned long ago that most slumpers are more tired than the erect fellows with good posture. And a good looking erect company has more self confidence and better morale. And fellows with better posture can usually march farther with heavier packs without getting tired. They make more dependable soldiers. Gene Tunney, the former heavyweight boxing champion, was a commander in the navy during the war. He certainly believed that posture was an important part of endurance and morale. His training program for the men on the ships as well as those in boot camp included a lot of activities to make good posture. He knew that a fellow who is physically fit should *look* physically fit as well.

Winnie Worker—May I say something too? I'm Winnie Worker. What Donald Draftee says goes for women too. I had a job in a factory. We had to lift heavy things. And standing on those concrete floors all day long was bad. Almost every night those first few months I thought I'd have to quit. I was so tired I ached all over. But after I got good working shoes, and learned how to lift things and carry them properly and got stronger it wasn't bad at all. And then my friends started to say my figure and my pos-

ture looked better, and I realized that the work had been good for me. I could do my own housework and still have energy to go out in the evenings. Instead of getting more tired I seemed to be less tired and better able to do almost anything. It certainly pays to learn how to do things the best way. At the factory they called it having good body mechanics.

Physical Education Teacher—In many industries especially during the war, so many women did quit during their first few months of work that the managers tried to find out why. It was the women with weak backs and weak feet and poor posture who were injured most and who got so tired that they quit. In some of these plants courses were started to teach women to use their muscles to better advantage, to avoid unnecessary strain by faulty body mechanics, and to lift heavy parts without getting back strains. In many factories this kind of training cut down injuries and absenteeism a good deal. The same kind of training helps the average man or woman do whatever his daily job demands with less effort, and leaves him with surplus energy to enjoy himself both on the job and in leisure time. This physical fitness can be built up in physical education classes.

Freddie Football—I'd like to join in too. I'm Freddie Football. I used to play half-back when I was in school. I wanted to play professional sports after I got through school, but I got hurt and had to quit. That's what I wanted to tell you about. The doctor said that if my feet and my posture hadn't been so poor I probably wouldn't have had so much trouble.

Physical Education Teacher—That's often very true. I know the head trainer of the football team at a big university who had teams which won every game for two years. He knew that the fellows with good posture and strong feet didn't get hurt so often or so badly. They were dependable, week after week, always ready for every game.

The kind of good posture that is really useful is the kind that we don't have to think about once we have really learned it well. It isn't something you put on for a few minutes when you think someone's watching you, and then take off again when you're alone. It's the postures which we use all day, every day that either work for us or against us. The sooner we build up the useful kind of posture the easier it is, and the older we get the harder it is. So don't put off trying to improve. Don't wait for tomorrow. Tomorrow never comes. Start now. Take a tip from our
————— School chorus.

Pupil Chorus (Singing)—“Perfect Posture Song”¹

Physical Education Teacher—We have another guest with us this morning. I'd like to introduce Mrs. —————, president of the ————— association, and well known to many of our radio audience.

Parent—Is it true (*Physical Education teacher's name*) that posture improvement is being stressed in all the schools of the city this year?

Physical Education Teacher—That's right. In all the elementary, junior and senior high schools.

Parent—Just how would this program affect any child in an elementary school.

Physical Education Teacher—In several ways.² All teachers in each elementary school are making a special effort to teach good habits of posture in all school activities. Many children do not know how to stand well even when they are trying to do so. Just a few minutes ago you saw some of the awkward attempts which Sidney Slump made when he first tried to improve. During the health and physical education periods our teachers are helping each child to know how good posture feels, and how to assume it easily. I help the

¹ See p. 157.

² The following paragraphs should be modified according to the program offered in the individual community.

teachers and the pupils in each school during my weekly visits. Together we try out many activities and exercises which help pupils develop better posture skills. Every child in every school is receiving this help. Ask your daughter (son) what the children are doing in $\left\{ \begin{smallmatrix} \text{his} \\ \text{her} \end{smallmatrix} \right\}$ school. Almost everything which we do in school can also be done at home. And the saying "practice makes perfect" certainly applies to habitually improved posture.

In addition to this posture instruction for every child, those children who have particularly poor posture are given additional individual help. These children are examined, and those who can be helped by further posture training meet in small groups in each school once a week for special assistance. These children learn simple posture exercises—they are more like games to many of the children—exercises which they can do at home. We like to have Parents visit these classes, and to encourage their children to do their exercises at home each day. Where parents show keen interest the children respond, and improve much more rapidly.

Parent—I'm sure most parents would be glad to help, if they just knew how. They are anxious for their children to develop straight healthy strong bodies. I know I am.

Physical Education Teacher—We want all parents to know about this posture program, and how they and the teachers can work together to help the children most effectively. That's why we are offering this radio broadcast, and why we are describing the program in the parent-teacher-associations at each school.

Parent—Will posture exercises improve all the cases of poor posture you see in the schools?

Physical Education Teacher—Most of them, yes. Provided of course that the children are really getting plenty of good food, plenty of sleep and rest, and provided they feel secure

and happy at home and at school. You know poor posture is often caused by fatigue due to malnutrition and over-exertion. And there are children who are not cheerful and happy and secure enough at home or in school to want to walk erectly with enthusiasm. You can't expect such children to make much improvement unless they really feel well and want to look well. Then there are a few children who have the type of poor posture which has accompanying structural defects. We refer these children to their family physicians or to the orthopedic service of the local crippled children's society for examination and specific recommendation. If the physician recommends posture training in the schools for these children we are very glad to provide it.

Parent—Do you find that more boys or more girls have poor posture?

Physical Education Teacher—That's not an easy question to answer. Many boys would like us to think that they don't care about their posture, and so they sometimes slouch around rather badly. But even these boys usually do care and often show very good easily erect postures. Many girls who have had very little physical education experiences and who are not skillful in activities tend to avoid all exertion. These girls often have very poor posture. Poor posture in girls sometimes is overlooked because girls seldom appear in a sports or gymnasium costume which reveals the faults. Boys on the other hand so often wear only shorts or swimming trunks that they themselves are more conscious of their postures and the effect on their appearance. This helps boys to be their own judges and to make their own improvement.

Parent—Why is there so much poor posture? Almost every time I go downtown I see some one on the streets whose posture is so poor that I can't help noticing it. Aren't we healthy enough?

Physical Education Teacher—Certainly most boys and girls and adults know much more about health than past generations ever knew. But it is true that our knowledge about health and our habits with regard to health are a long way apart. We know better than to do many of the things which we do every day. We know how long we ought to sleep each night, and what foods we ought to eat, but we apparently think that it is more important to see a particular movie even though it does mean that we run short on sleep, or else we are too lazy to prepare the nutritious meals which we know would be better for us. Labor saving devices and sedentary types of recreation rob us of a great deal of the vigorous physical activity which is required to maintain strong trunk muscles which are necessary to good posture. For every person who plays a set of tennis, or who goes swimming, or who mows the grass on a fairly sizeable yard there are over a hundred who go to the movies, and probably over a thousand who sit at home in front of the radio, at the bridge table or with the latest murder mystery.

Parent—Are adults too old to be able to improve their postures?

Physical Education Teacher—In most cases the answer is certainly "no." You *can* teach an old dog new tricks. It is more difficult to make the same amount of physical improvement in an adult than in a child. But many adults are so convinced of the desirability of improvement that they have the will to improve which is sometimes lacking with children. Where there's a will there's a way. If parents would show their interest in their own postures as well as those of their children, both parents and children would be motivated to improve. Children certainly will show greater interest if they see their parents making an effort to practice what they preach to their children, instead of just nagging them.

Announcer—I don't like to break into your discussion,

(Name of teacher), but there really is just time enough for you to summarize this morning's program if you wish to do so.

Physical Education Teacher—Thank you, (Name), I'd like (Name of town) pupils and parents to think of the posture program as a part of the nationwide emphasis on physical fitness. We have frequently heard about the thousands of men who were rejected in the military draft for physical defects. This made us realize our weaknesses. The only thing that will make a healthy nation is 140 million healthy and vigorous boys and girls and men and women. We needed them to win the war, but we need them still more to win the peace. We need every parent and every pupil wide awake with energy enough to work for justice and goodwill within his own family, his own school and his own community. Such people will be the strongest force for a better world. We'll always need physically fit people to make this world a better place to live in. If you are wide awake enough to see your responsibility to your school and to your community, and if you have some energy and physical fitness to spare at the end of the day's work, you'll go right on working for the good of others. You'll be proud of the job you're doing, and you will look as though you were proud of it. Your chest will swell just a bit with pride and your head will go up, your back will straighten out its hunches and you'll look your friends straight in the eye. There will be confidence and vigor in every step you take. You'll have good posture, and your good posture will be working for you, and for others.

Announcer—Thank you, (mention all those who took part in the program). The (Name) School chorus under the leadership of their teacher Miss (Name of Teacher) brings our program to a close with their theme song, "Are you a Camel?"

Pupil Chorus—(Singing) "Are you a Camel?"

THE EXERCISE WAY

A skit for adolescent girls and women.

Characters—All wear gymnasium suits, and over them wrap-around skirts. Some carry properties as indicated below.

Jane wears high heeled pumps, and carries sport oxfords in her hand.

Jill carries a hot water bottle.

Sue

Nell is well padded under her skirt, so as to appear fat, and carries a candy bar.

Nan wears glasses and carries a heavy book.

Fran carries a large bottle of laxative pills.

Reader

All six actresses enter in lock step, singing dolefully: "Down, going down, going down into the tomb." They take positions in a line well spread out across the back of the stage. The reader takes a position at one front corner of the stage.

Reader—Jane's arches ache, and she walks like a duck.

(Jane limps forward toeing out markedly.)

Jill has cramps once a month, worse luck.

(Jill comes forward slowly holding a hot water bottle to her tummy.)

At the first sign of trouble, they'd let out a yelp,
To themselves and society they're no help.

Sue has the jitters, and is one big nerve,
(Sue jitters forward biting her finger nails.)

Nell loves candy bars, is one big curve.
(Nell waddles forward chewing loudly.)

At the first sign of trouble they'd let out a yelp,
To themselves and society they're no help.

Nan's posture comes from her nose in her book,
(Nan moves slowly forward with her nose deep in her book.)

Fran's constipation's from the pills she took.
(Fran comes forward holding her tummy and the bottle of pills.)

At the first sign of trouble they'd let out a yelp,
To themselves and society, they're no help.
(All drop heavily into sitting positions across the room, unobtrusively unbutton their skirts so they may be slipped off when they stand.)

Reader—Jane learned to walk well, knows all about shoes,
(Jane slips off her shoes, does a foot exercise (see Chapter 19) , stands up facing the audience with pumps held behind her and good shoes in front.)

Jill's tummy exercises cleared away her blues.
(Jill does an abdominal exercise (see Chapter 19) , then stands beside Jane.)

Now Jane and Jill a fitness test could pass,
And they learned it all in a ————— class.¹

Sue learned to relax and not to worry,
(Sue rolls on her back limply while Nan tests her arm for relaxation (see Chapter 17, No. 8) , then stands beside Jane and Jill.)

Nell exercises, runs from sweets in a hurry.
(Nell throws away her candy bar, does a vigorous exercise, then stands beside the others.)

¹ Insert the name of the class or program which is being offered in each school, such as: "Posture," "Fitness," "Body Mechanics," or "Phys. Ed."

Now Sue and Nell a fitness test could pass,
And they learned it all in a _____ class.

Nan tucks her tummy in, and stretches with a will,
(Nan stands well, balances her book on her head and
walks over beside the others.)

For "regularity" now Fran never needs a pill.
(Fran does an abdominal exercise, throws away her pill
bottle and stands beside the others.)

Now Nan and Fran a fitness test could pass,
And they learned it all in a _____ class.

(All are standing side to the audience and facing the
exit, skirts over the arm away from audience.)

So if you're distressed when you look into the mirror
(All six shake a warning finger at the audience)

To a _____ class come a little nearer.
(All six beckon audience to follow and skip forward four
skips.)

For a better figure, vitality and vim,
(All six smooth down their hips and throw out their
 chests.)

Try a _____ class when you come into
our gym.

(All exit singing "Perfect Posture," p. 157.)

INDEX

- Abdominal exercises, 137, 166
 - twist, 117
- Activities, adapted to groups, 71
 - apparatus, 134
 - classification, 81-4
 - classroom, 142-57
 - fundamental skills, 85-100
 - hanging, 135, 137
 - integration of, 72
 - interclass, 158-62
 - relaxation, 128-133
 - vaulting, 136, 139-41
- Administration, school-wide, 19-26
 - class, 71-84
- Airplane on back, 119
- Airplanes, 101
- Alignment, standing, 34-8
 - foot, 47-8, 51, 91-3
- Antigravity muscles, 13
- Arm flinging from cross to fly, 132
- Assembly programs, 160, 179-208

- Back stretcher, 167
- Balance board on head, 98
- Bancroft, Jessie M., 51
 - triple posture test, 51, 78, 100
- Bear dance, 111
- Bending groaner, 116
- Bibliography, 171-8
- Bicycle rider, 103
- Billig exercise, 169
- Body balance, 90
- Breaking chains, 126
- Bromide paper negatives, 62
 - camera adjustments for, 64
- Brownell, C. L., 56, 177
- Butterfly, 101

- Camera adjustment, 63-5
- Causes of painful feet, 146
- Challenge, 113
- Chest and back stretcher, 124
 - expansion exercises, 122
- Children judging walking, 93
- Children's Bureau, 54-5
- Chinning progression, 138
- Climbing, 125

- Coffee grinder, 113
- Collecting pictures, 148
- Co-operation with community, 28-9
 - with medical service, 34, 39, 45, 49, 163
 - with parents, 29-33, 163
- Corrective program, 3, 24, 163-70
 - teachers' qualifications, 20, 164
 - texts, 175
- Crane dive, 112
- Criteria of posture, general, 34-9
 - feet, 91
 - sitting, 93-5
 - standing, 87
 - walking, 92
- Crook, Billie Louise, 53
- Cureton, T. K., 70

- Daily skills, 91-3, 98-100, 142
- Deep breathing, 122, 165
- Developing photographs, 63, 68
- Did you ever see a lassie, 100
- Double pole test, 88
- Dramatizations, 161, 179-208
- Duck waddle, 102
- Dysmenorrhea, 168

- Elbow lift, 120
- Elevation, 34
- Elevator, 104
- English composition, 150, 160
- Environmental factors, 17, 128, 168
- Equipment, 22, 73-5, 134
 - hanging, 73
 - mirror, 73
- Eraser tag, 105
- Evaluation, 39-60
 - group tests, 49-52
 - present status, 23, 75-81
- Exercises, corrective, 163
 - for classroom, 125-7
 - for playroom, 115-24

- Face lift, 120
- Facilities, 22, 25
- Fatigue, 8, 11
- Films, 173-4

- Flat chest, 165
- Flexibility, 11, 135
- Follow the leader, 106
- Foot, alignment, 47-8, 51, 91-3
 - care of, 142
 - contest, 160
 - exercises, 126, 146, 167
 - pain, 146-7
 - prints, 145, 160
 - tracings, 145
- Fundamental skills, 85-100
- Furniture, 93-5
- General slump, 164
- Going to Jerusalem, 104
- Goldthwaite, J. E., 27
- Good form at school desks, 95
 - mechanics all about us, 147
- Grah bag, 106
- Gravity, effect of, 8, 11
- Half sit-up, 125
- Hand clap, 118
- Hanging with traveling, 138
- Hansson, K., 27
- Hardy, M. C., 26
- Harvard standards, 58
- H'Doubler, M., 130
- Health factors, 5, 76
- Health texts, 176
- Heel click, 110
- Hollow back, 167
- Home co-operation, 28-33
- Integration with physical education, 21
 - with school health services, 22, 163
 - with school medical services, 22
 - with school agencies, 20
- Iowa posture test, 49-51, 78
- Joint strain, 35
- Kellogg, J. H., 70
- Klein, A., 27
- Knee bend, 116
 - chest position, 168
 - dip, 113
- Kuhns, J., 27
- Lateral asymmetry, 45-6, 89, 168
- Lee, R. L., 27
- Leg lift, 120
- Ligaments, 12
- Lighting, photographic, 66
 - school, 7
- Limp head, 129
 - legs, 129
 - limbs, 128
 - limbs, lying down, 129
 - trunk, 128
- Line test, 89
- Lordosis, 167
- MacEwan, C. G., 70
- Manual correction, 87-8
- Marble game, 147
 - race, 147
 - walking, 147
- Marching, 92
- Measuring stretch, 90
 - worm, 103
- Medical endorsement, 1
 - examinations, 6, 21, 39, 49, 168, 170
 - service, 22, 163
- Menstrual pain, 168
- Mirror correction, 90
 - walking, 93
- Modern living, effects of, 17
- Mosher exercise, modified, 166
- Motivation, 61, 134, 142
 - school-wide, 157-62
 - teacher, 25, 81
- Movies, 173-4
- Mule kick, 103
- Muscle, strain, 35
 - strength and weakness, 16, 164
- Muscles, antigravity, 11, 13-6
- Nagging, avoid, 6, 80
- Need for posture training, 8
- Obstacle course, 99-100
- Organic function, 37
- Organization, 19-26
 - advisory committee, 20
 - class, 71-84
- Orthopedic endorsement, 26
 - consultation, 24, 45, 81, 163, 167
- Ourselves as others see us, 180
- Pamphlets, 174
- Parent co-operation, 5, 20, 29-33
- Partner lift, 121
- Password club, 148
- Pendulum, 113
- Perfect posture, 189
- Photographs, 61-70
 - developing, 63
 - grading, 52, 69
 - objective grading, 69
 - portable equipment, 62
- Physiology, 37

- Planning, classroom, 75-83
 - community, 28-33
- Poems, 150
- Posters, 73, 171-3
 - exhibits, 160
 - making, 148
- Posture, best vs. natural, 9, 36, 37, 44, 79
 - checker, 148
 - code, 149
 - conditioning series, 148
 - contest, 159
 - dynamic nature of, 12, 52
 - examinations, 24, 39-60
 - individual, 39-49, 58
 - group, 49-52
 - screening, 39-49, 78
 - for speakers, 149
 - improvement, 36, 37
 - index of health, 5
 - manikin, 150-1
 - mirror, 160
 - movies, 160, 173-4
 - poems, 150-6
 - privileges, 149
 - program, 150
 - need for training, 12, 52
 - plays, 161, 179-208
 - songs, 157
 - standards, 53-8
 - objective, 69
 - style course, 100
 - tags, 158
 - writing, 149-50, 160
- Prancing horses, 102
- Preventive program, 23
- Progress chart records, 108
- Progression, in jumping, 140
 - in landing, 140
- Pronation, 47, 48, 167
- Pupil leadership, 86, 125
- Push-up, 120
- Pussy willow, 106
- Qualifications, of teachers, 3, 163-4
 - of supervisors, 20
- Rabbit hop, 103
- Radio broadcast script, 192
- Records, 24, 39-60
 - commentary, 60
 - individual, 59
 - personal history, 32
 - progress chart, 108
 - screening, 41
- Relaxation, 34, 128-133, 168-9
 - activities, 128-133
 - pace of living, 7
 - rolls, 130
- Research, 70
- Responsibility of classroom teacher, 3, 72
 - of physician, 39
- Rest on desks, 129
 - period, 130
- Rhythm series, 118-21
- Rising on toes, 146
- Rope climbing, 138
- Rowboat, 102
- Running, 51, 97
- Russian dip, 111
- Safety, 135-6
- Saluting the flag, 179
- School environment, 6, 163
 - medical services, 22, 39
 - pace, 7
 - relaxation, 128
- Scissors, 102
- Scoliosis, 45-6, 89, 168
- Seal, 103
- Seating, 6, 93-6
- See-saw, 104
- Sex adaptation of activity, 82
- Shoes, 142-5, 167
 - collection of, 145
- Shoulder circles, 125
 - hunching, 127
 - rotation, 117
- Side bender, 118
- Silhouettes, objective grading, 69 7
 - pre-school age, 53
 - school age, 54-8
- Simon says, 98
- Sit and reach, 119
- Sitting, 51, 93-6
 - relay, 107
 - tug o' war, 122
- Sit-ups, 121
- Skater's balance, 112
- Skeletal support, 9
- Sleep record, 150
- Sliding up the wall, 167
- Songs, 157
- Space requirements, 81
- Spine stretching, 124
- Squat and reach, 132
 - and stand, 110
 - tag, 106
 - thrust, 116
 - thrust at seats, 126
- Stalking wild game, 105
- Stationary hanging, 137

- Straight feet, 91
 - line walking, 92
 - man, crooked-man, 147
- Stunts for grades, 3-9
 - for younger children, 101-7
- Supervision, 3, 19, 23, 163
 - in-service training, 22
- Swan dive, 111
- Swimming, 126

- Take it away, 105
- Teaching, plan, 71-84
 - pupil leadership, 86
- Test for relaxation, 130
- The exercise way, 206
- Thomas, L. C., 56, 155-6
- Three count walking, 91
- Tightrope walker, 102
- Toe curling, 126
 - gripping, 146
 - toucher, 117

- Tracing high- and low-heeled shoes, 145
- Training of teachers, 3-4, 163
- Treasure hunt, 149
- Trunk bending, 127
- Twister, 110

- Uncurling, 121

- Visual aids, 73, 171-8
- Vitality, 5

- Walking, 51, 52, 92-3
 - with object on head, 93
- Wall correction, 90
 - push-away, 166
- Warm-up series, 115-117
- Wellesley objective grading (see Mac-
Ewan)
- Whitman, Royal, 27
- Wooden man, 112
- Writing with toes, 147

